


SECTION 1

1.	$0.3 = \frac{3}{10}$ $\frac{3}{10} = \frac{3}{1} \times \frac{1}{10} = 3 \times \frac{1}{10}$ <p>Ans: $\frac{1}{10}$</p>	11.	<p>1 kg = 1 000 g 800 kg = 800 x 1 000 = 800 000 g</p> <p>Ans: 800 000 grams</p>						
2.	<p>Total cost of the 2 pencils = \$3.50 x 2 = \$7.00 Change received = \$10.00 – \$7.00 = \$3.00</p> <p>Ans: \$3.00</p>	12.	$\frac{3}{4} \times \frac{60}{1} = 45 \text{ minutes}$ $1 \frac{3}{4} \text{ hours} = 1 \text{ hr } 45 \text{ mins}$ <p>Time the movie finished = hr min 5 20 + <u>1 45</u> $\overset{6^{+1}}{6} \dots \overset{60}{65}$ <u>7 05</u> = 7:05 p.m.</p> <p>Ans: 7:05 p.m.</p>						
3.	$6\% = \frac{6}{100} \text{ when reduced by } 2 = \frac{3}{50}$ <p>Ans: $\frac{3}{50}$</p>	13.	<p>Number of small cubes in the figure = 3 x 3 x 2 = 18 cubes</p> <p>Volume of the object = Number of small cubes x Volume of each small cube = 18 x 8 cm³ = 144 cm³</p> <p>Ans: 144 cm³</p>						
4.	Ans: The pattern increases by 0.2	14.	<p>Perimeter = Side x 4 = 12 cm x 4 = 48 cm</p> <p>Ans: 48 cm</p>						
5.	<p>1 m = 100 cm 2 m = 2 x 100 = 200 cm 200 x 0.6 = 120 cm</p> <p>Ans: 120 cm</p>	15.	<p>Ans:</p> 						
6.	<p>Selling price = Cost Price – Loss = \$600.00 – \$75.00 = \$525.00</p> <p>Ans: \$525.00</p>	16.	<p>Ans:</p> <table border="1"> <thead> <tr> <th>Solid</th> <th>Number of Vertices</th> <th>Number of Edges</th> </tr> </thead> <tbody> <tr> <td>Cone</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Solid	Number of Vertices	Number of Edges	Cone	1	1
Solid	Number of Vertices	Number of Edges							
Cone	1	1							
7.	$6^3 = 6 \times 6 \times 6$ $= 36 \times 6 = 216$ <p>Ans: 216</p>								
8.	<p>Number of cases of water = 192 ÷ 24 = 8 cases of water</p> <p>Ans: 8 cases of water</p>								
9.	<p>Largest decimal = 49.7. Smallest decimal = 4.5</p> $\begin{array}{r} 49.7 \\ + 4.5 \\ \hline 54.2 \end{array}$ <p>Ans: 54.2</p>								
10.	$\frac{65}{100} \times \frac{300}{1} = 65 \times 3 = 195$ <p>Ans: 195</p>								

17.	<p>Quarter turn = 90° Number of quarter turns the arrow turned $= 270^\circ \div 90^\circ = 3$ <u>Ans: 3 quarter turns</u></p>
18.	<p>Number of tyres sold in total $= (1 + 4 + 3 + 6 + 4 + 3 + 4) \times 4$ $= 25 \times 4 = 100$ tyres <u>Ans: 100 tyres</u></p>

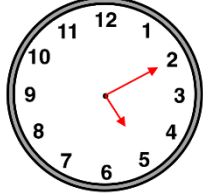
19.	<u>Ans: Maths and Literature</u>
20.	<p>Total = Mean x Number of numbers $= 44 \times 6 = 264$ <u>Ans: 264</u></p>

SECTION 2

21.	<p>$7^2 = 7 \times 7 = 49$ Missing number $= 86 - 49 = 37$ <u>Ans: 37</u></p>
22.	<p>$15 \frac{1}{2} = \frac{31}{2}$ $3 \frac{1}{4} = \frac{13}{4}$ $\frac{31}{2} \div \frac{13}{4} = \frac{31}{2-1} \times \frac{4-2}{13} = \frac{62}{13} = 4 \frac{10}{13}$ <u>Ans: 4 $\frac{10}{13}$</u></p>
23.	<p>Total number of ties in one of each size bag = $3 + 9 = 12$ ties Number of bags containing 3 and 9 ties each = $156 \div 12 = 13$ bags each <u>Ans: 13 bags each</u></p>
24.	<p>$\frac{15}{100} \times \frac{40}{1} = \frac{60}{10} = 6$ tomatoes fewer were sold on Sunday Number of tomatoes sold on Sunday = $40 - 6 = 34$ tomatoes Total number of tomatoes sold on Saturday and Sunday = $40 + 34 = 74$ tomatoes Total amount of money made from the sale of tomatoes for the 2 days = $74 \times \\$4.00 = \\296.00 <u>Ans: \$296.00</u></p>

25.	<p>$26 + 42 = 68$</p> $\begin{array}{r} 123 \\ \times \quad 68 \\ \hline 984 \\ 7380 \\ \hline 8364 \end{array}$ <u>Ans: 8 364</u>
26.	<p>Jerry's regular daily wage = Hourly rate of pay x Number of regular hours worked $= \\$60.00 \times 8 = \\480.00</p> <p>Jerry's overtime rate of pay $= 1 \frac{1}{2} \times \text{Hourly rate of pay}$ $= \frac{3}{2-1} \times \frac{60-30}{1} = 3 \times 30 = \\90.00</p> <p>Number of overtime hours worked = $11 - 8 = 3$ hours overtime</p> <p>Jerry's overtime wage for Monday = $\\$90.00 \times 3 = \\270.00</p> <p>Amount of money Jerry earned on Monday = Regular daily wage + Overtime wage for Monday $= \\$480.00 + \\$270.00 = \\$750.00$ <u>Ans: \$750.00</u></p>

27.	<p>Percent of the cars that remained = $100\% - 40\% = 60\%$</p> <p>Percent of the cars James kept = $\frac{3}{5-1} \times \frac{\cancel{60} \cdot 12}{100} = \frac{36}{100} = 36\%$ Ans: 36%</p>
28.	<p>Quil = X Byron = X + \$6.00</p> <p>$X + X + \\$6.00 = \\$56.00$ $X + X = \\$56.00 - \\$6.00 = \\$50.00$ $X = \\$50.00 \div 2 = \\25.00 Amount of money Byron received = $\\$25.00 + \\$6.00 = \\$31.00$ Ans: \$31.00</p>
29.	<p>The length of each of the smaller objects = $12 \text{ cm} \div 3 = 4 \text{ cm}$ Ans: All the edges of each smaller solid are the same length, so the type of solid is a cube.</p>
30.	<p>Number of comics packed in Boxes A and B = $40 \times 2 = 80$ comics</p> <p>Number of comics packed in Box C = $140 - 80 = 60$ comics</p> <p>Fraction of comics that was packed in Box C = $\frac{60}{140}$ when reduced by 20 = $\frac{3}{7}$ Ans: $\frac{3}{7}$</p>
31.	<p>Length of each pen = $9.0 \text{ cm} - 2.5 \text{ cm} = 6.5 \text{ cm}$</p> <p>Total length of 8 identical pens = $6.5 \text{ cm} \times 8 = 52 \text{ cm}$</p> <p>$100 \text{ cm} = 1 \text{ m}$ Total length of 8 identical pens in metres = $52 \text{ cm} \div 100 = 0.52 \text{ m}$ Ans: 0.52 m</p>

32.	<p>Five past ten in the morning is written as 10:05 a.m. Mary left home at the earlier time. Ans: Mary</p> 						
33.	<p>Ans:</p> <table border="1"> <thead> <tr> <th>Solid</th> <th>Types of faces</th> <th>Shape of the cross- section</th> </tr> </thead> <tbody> <tr> <td>Cylinder</td> <td>Circular and curved</td> <td>Circle</td> </tr> </tbody> </table>	Solid	Types of faces	Shape of the cross- section	Cylinder	Circular and curved	Circle
Solid	Types of faces	Shape of the cross- section					
Cylinder	Circular and curved	Circle					
34.	<p>Ans: Shape A is a solid shape called a cube that has 6 square faces, 12 edges and 8 vertices. Shape B is a plane/flat shape called a square with 4 equal sides and 4 right angles.</p>						

35. Total number of bricks sold on the given days
 $= (6 + 5 + 7) \times 10$
 $= 18 \times 10 = 180$ bricks

Total number of bricks sold on both Tuesday and Thursday
 $= 240 - 180 = 60$ bricks

Number of bricks sold each day on Tuesday and Thursday
 $= 60 \div 2 = 30$ bricks

Number of blocks representing 30 bricks
 $= 30 \div 10 = 3$ blocks

Ans:

Bricks Sold

Mon.							
Tue.							
Wed.							
Thur.							
Fri.							

Number of Bricks

Each = 10 bricks

36. Two smallest bands are Carnival Lovers and Seasons of the Year
 $1\,500 + 2\,900 = 4\,400$
 The biggest band is Birds of the Caribbean = 4 500
Ans: No, it would not be the biggest band.

SECTION 3

37. 1 loaf of bread = 3 eggs
 8 loaves of bread = $3 \times 8 = 24$ eggs

1 cake = 5 eggs
 4 cakes = $5 \times 4 = 20$ eggs

Total number of eggs used
 $= 24 + 20 = 44$ eggs

Total number of eggs purchased
 $= 12 \times 4 = 48$ eggs

Number of eggs remaining
 $= 48 - 44 = 4$ eggs
Ans: 4 eggs

38. Number of cubes in container
 $= L \times W \times H$
 $= 3 \times 3 \times 3 = 27$ cubes

Volume of each cube
 $= 3 \text{ cm} \times 3 \text{ cm} \times 3 \text{ cm} = 27 \text{ cm}^3$

Volume of container
 $= 27 \text{ cubes} \times 27 \text{ cm}^3 = 729 \text{ cm}^3$
Ans: 5 m

39. (a)

Ans:

Number of Edges	Types of Faces
9	Triangular and rectangular

(b)

Ans: An equilateral triangle

(c)

Size of Angle X = $180^\circ \div 3 = 60^\circ$

Ans: 60°

40. (a)

Total amount of money saved
= Mean amount of money saved
x Number of days
= $\$12.00 \times 5 = \60.00

Total amount of money saved on
the given days
= $\$12.00 + \$13.50 + \$10.00 + \13.50
= $\$49.00$

Amount of money saved on
Thursday
= $\$60.00 - \$49.00 = \$11.00$

Ans: $\$11.00$

(b)

Ans: $\$13.50$

(c)

Money Lewis still needs to save
= $\$75.00 - \$60.00 = \$15.00$

Ans: $\$15.00$

SECTION 1

1.	<table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> <th></th> <th>Tenths</th> <th>Hundredths</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>2</td> <td>4</td> <td>.</td> <td>9</td> <td>1</td> </tr> </tbody> </table> <p>Ans: $\frac{9}{10}$ or 9 tenths</p>	Hundreds	Tens	Ones		Tenths	Hundredths	6	2	4	.	9	1	9.	<p>Cost price – Loss $= \\$125 - \\$30 = \\$95$ Ans: \$95.00</p>
Hundreds	Tens	Ones		Tenths	Hundredths										
6	2	4	.	9	1										
2.	<p>$\frac{5}{100}$ when reduced by 5 = $\frac{1}{20}$ Ans: $\frac{1}{20}$</p>	10.	<p>0.8 $\times \frac{0.3}{0.24}$ Ans: 0.24</p>												
3.	<p>$\sqrt{81} = 9$ $9 \div 3 = 3$ $1^2 = 1 \times 1 = 1$ $3 = 2 + 1$ Ans: 2</p>	11.	<p>Length of the side of the square $= \sqrt{\text{Area}} = \sqrt{121} = 11 \text{ cm}$ Perimeter of the square $= \text{Side} \times 4 = 11 \text{ cm} \times 4 = 44 \text{ cm}$ Ans: 44 cm</p>												
4.	<p>$\frac{12}{16} \times \frac{3}{4} \times \frac{100}{1} = \frac{3}{4} \times \frac{100}{1} = 75\%$ Ans: 75%</p>	12.	<p>1 kg = 1 000 g 1.15 kg x 1 000 = 1 150 g Ans: 1 150 g</p>												
5.	<p>$(4 \times 5) + 3 = 20 + 3 = 23$ $\frac{23}{5}$ Ans: $\frac{23}{5}$</p>	13.	<p>1 hour = 60 minutes</p> <p>Method 1 $6 \frac{1}{2} = \frac{13}{2}$ $\frac{13}{2} \times \frac{60-30}{1} = 13 \times 30 = 390 \text{ minutes}$</p> <p>Method 2 6 hours = 6 x 60 = 360 minutes $\frac{1}{2}$ hour = 60 ÷ 2 = 30 minutes Total time taken in minutes $= 360 + 30 = 390 \text{ minutes}$ Ans: 390 minutes</p>												
6.	<p>74 $\times 12$ $\underline{148}$ 740 $\underline{888}$ Ans: 888</p>	14.	<p>$2 \frac{1}{2} = 2.5 \text{ m}$ 1 m = 100 cm 2.5 m = 2.5 x 100 = 250 cm Number of pieces of string $= 250 \div 25 = 10 \text{ pieces}$ Ans: 10 pieces</p>												
7.	<p>$5\% = \frac{5}{100} = 0.05$ Ans: 0.05</p>	15.	<p>Ans: 5</p>												
8.	<p>Number of games lost and drawn $= 1 + 3 = 4$ Number of games won $= 16 - 4 = 12$ Percent of games won $= \frac{12}{16} \times \frac{100}{1} = \frac{3}{4} \times \frac{100}{1} = 75\%$ Ans: 75%</p>														

16.	Angles A, B, C, D and G are all right angles. Angles E and F are both smaller than a right angle. <u>Ans: 2 angles</u>
17.	A pyramid is named after its base. A square-based pyramid is a pyramid with a square base and four triangular sides. <u>Ans: Square-based pyramid</u>

18.	Number of children who like Curious George = 6 blocks x 3 children = 18 children Number of children who like Dora = 2 blocks x 3 children = 6 children 18 children – 6 children = 12 more children like Curious George <u>Ans: 12 children</u>
19.	Mean = number of books ÷ number of stacks Mean = (6 + 2 + 5 + 3) ÷ 4 = 16 ÷ 4 = 4 <u>Ans: 4 books</u>
20.	The mode or most frequent age is 9. <u>Ans: 9</u>

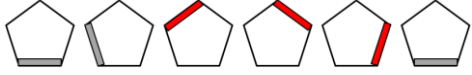
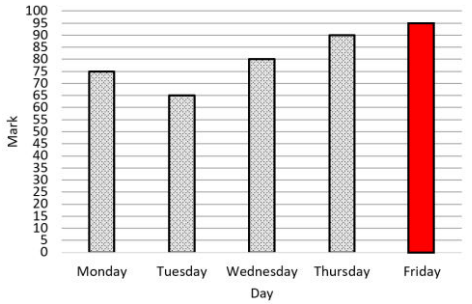
SECTION 2

21.	Number of blocks = $\frac{1}{4} \times \frac{64 \cdot 16}{1} = 16$ blocks 64 + 16 = 80 Lego blocks <u>Ans: 80 Lego blocks</u>
22.	Discount = $\frac{20}{100} \times \frac{\$6\,200}{1}$ = 20 x 62 = \$1 240 Price paid after the discount = \$6 200 – \$1 240 = \$4 960 <u>Ans: \$4 960.00</u>

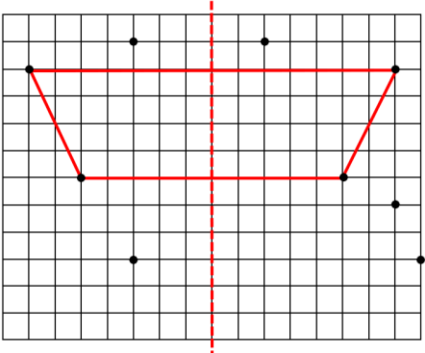
23.	Vendor A 1 ochro = 12 ÷ 8 = \$1.50 Vendor B 1 ochro = 15 ÷ 12 = \$1.25 <u>Ans:</u> <u>Vendor B sold ochros at a cheaper price than Vendor A, therefore giving customers a better bargain. For this reason, Vendor B sold more ochros than Vendor A.</u>
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24.	<p>Chickens = 25% = $\frac{1}{4} = \frac{2}{8}$</p> <p>Goats = $\frac{3}{8}$</p> <p>Chickens and goats together $= \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$</p> <p>Sheep = $\frac{8}{8} - \frac{5}{8} = \frac{3}{8}$</p> <p>Number of sheep $= \frac{3}{8} \times \frac{1200}{1} = 3 \times 150 = 450$</p> <p>Ans: 450 sheep</p>	<p><u>Method 2</u></p> <p>$\frac{2}{3} = 30$ containers</p> <p>$\frac{1}{3} = 30 \div 2 = 15$ containers</p> <p>Total remainder $= \frac{3}{3} = 15 \times 3 = 45$ containers</p> <p>Fraction of total remainder = fraction of containers Adonaia had first – fraction Nayyara received $= \frac{5}{5} - \frac{2}{5} = \frac{3}{5} = 45$ containers</p> <p>$\frac{3}{5} = 45$ containers</p> <p>$\frac{1}{5} = 45 \div 3 = 15$ containers</p> <p>Number of containers Adonaia had at first $= \frac{5}{5} = 15 \times 5 = 75$ containers</p> <p>Ans: 75 containers</p>
25.	<p>Sariah's 30 containers = the total remainder – Kaire's share $= \frac{3}{3} - \frac{1}{3} = \frac{2}{3}$</p> <p><u>Method 1</u></p> <p>$\frac{2}{3} = 30$ containers</p> <p>Total remainder $= \frac{30}{1} \div \frac{2}{3} = \frac{30}{1} \times \frac{3}{2} = 15 \times 3 = 45$ containers</p> <p>Fraction of total remainder = fraction of containers Adonaia had first – fraction Nayyara received $= \frac{5}{5} - \frac{2}{5} = \frac{3}{5} = 45$ containers</p> <p>Number of containers Adonaia had at first $= \frac{45}{1} \div \frac{3}{5} = \frac{45}{1} \times \frac{5}{3} = 15 \times 5 = 75$ containers</p>	26. Total spent = \$35.00 + \$4.50 = \$39.50
		27. Number of blue pencils = 75 pencils – 60 red pencils = 15 pencils
		28. Number of weeks needed to save = \$3 600 ÷ \$180 = 20 weeks

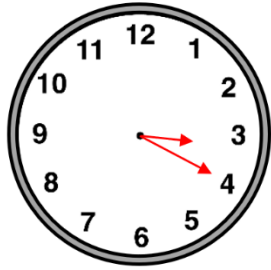
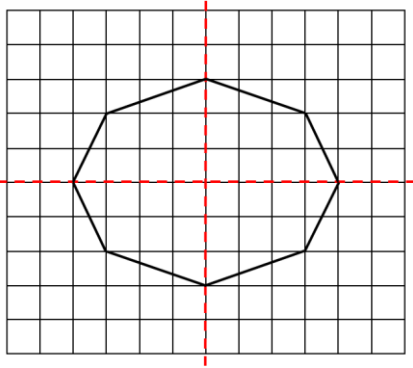
29.	<p>Distance to brother's house $= \frac{1}{3} \times \frac{6600 \ 2200}{1} = 2\ 200 \text{ m}$</p> <p>Total distance driven $= 6\ 600 + 2\ 200 = 8\ 800 \text{ m}$</p> <p>$1\ 000 \text{ m} = 1 \text{ km}$ $8\ 800 \text{ m} \div 1\ 000 = 8.8 \text{ km}$ Ans: 8.8 km</p>
30.	<p>$75\% = \frac{75}{100} = \frac{3}{4}$</p> <p>Number of cars parked for 1 day $= \frac{3}{4} \times \frac{200 \ 50}{1} = 3 \times 50 = 150 \text{ cars}$</p> <p>Money collected on Monday $= 150 \text{ cars} \times \\$60 = \\$9\ 000$ Ans: \$9 000.00</p>
31.	<p>Time arrived $= \text{hr min}$ $8 \ 30$ $- \ \underline{05}$ $8 \ 25 \text{ a.m.}$</p> <p>Time spent walking $= \text{hr min}$ $8 \ 25$ $- \ \underline{8 \ 02}$ $0 \ 23 = 23 \text{ minutes}$ Ans: 23 minutes</p>
32.	<p>$1 \text{ L} = 1\ 000 \text{ ml}$ $10 \text{ L} = 10 \times 1\ 000 = 10\ 000 \text{ ml}$ $\frac{3}{4} \text{ L} = \frac{3}{4} \times \frac{1000 \ 250}{1} = 3 \times 250 = 750 \text{ ml}$</p> <p>Amount Susan made $= 10\ 000 \text{ ml} + 750 \text{ ml} = 10\ 750 \text{ ml}$</p> <p>Number of cups that can be sold $= 10\ 750 \div 250 = 43 \text{ cups}$ Ans: 43 cups</p>

33.	<p>Ans:</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Type of triangle</th> </tr> </thead> <tbody> <tr> <td>All sides unequal</td> <td>Scalene</td> </tr> <tr> <td>Two equal sides</td> <td>Isosceles</td> </tr> </tbody> </table>	Description	Type of triangle	All sides unequal	Scalene	Two equal sides	Isosceles						
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34.	<p>Ans:</p> 												
35.	<p>Marks scored for the 4 days $= 75 + 65 + 80 + 90 = 310$</p> <p>Marks scored for the week = 405</p> <p>Marks scored on Friday $= 405 - 310 = 95$ Ans: 95 marks</p> <p>Marks Scored in Mathematics</p>  <table border="1"> <thead> <tr> <th>Day</th> <th>Mark</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>75</td> </tr> <tr> <td>Tuesday</td> <td>65</td> </tr> <tr> <td>Wednesday</td> <td>80</td> </tr> <tr> <td>Thursday</td> <td>90</td> </tr> <tr> <td>Friday</td> <td>95</td> </tr> </tbody> </table>	Day	Mark	Monday	75	Tuesday	65	Wednesday	80	Thursday	90	Friday	95
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36.	<p>Mean $= \text{sum of values} \div \text{number of values}$</p> <p>Fernando $= (11 + 14 + 13 + 12 + 10) \div 5$ $= 60 \div 5 = 12 \text{ minutes}$</p> <p>Lewis $= (13 + 14 + 15 + 12 + 11) \div 5$ $= 65 \div 5 = 13 \text{ minutes}$</p> <p>Fernando's average time was better as it was shorter. Ans: Fernando</p>												

SECTION 3

37.	<p>Number of OJTs</p> $= \frac{4}{100} \times \frac{150}{1} = \frac{4}{10} \times \frac{15}{1} = \frac{60}{10} = 6$ <p>Number of teachers and students</p> $= 150 - 6 = 144 \text{ persons}$ <p>Number of girls</p> $= \frac{1}{2-1} \times \frac{144}{1} = 72 \text{ girls}$ <p>Number of boys</p> $= \frac{4}{9-1} \times \frac{144}{1} = 4 \times 16 = 64 \text{ boys}$ <p>Number of teachers = Number of teachers and students – Sum of girls and boys</p> $= 144 - (72 + 64)$ $= 144 - 136 = 8$ <p>Ans: 8 teachers</p>	39.	<p>Ans:</p> 
38.	<p>Brent's regular daily salary</p> <p>= Hourly rate of pay x Number of hours worked in the day</p> $= \$80.00 \times 8 \text{ hours} = \640.00 <p>Brent's regular weekly salary</p> $= \$640.00 \times 5 \text{ days} = \$3\,200.00$ <p>Brent's overtime rate of pay = "time and a half" x Hourly rate of pay</p> $= 1 \frac{1}{2} \times \frac{80}{1} = \frac{3}{2-1} \times \frac{80-40}{1} = 3 \times 40$ $= \$120.00$ <p>Brent's overtime wage for Monday</p> $= \$120.00 \times 3 \text{ hours} = \360.00 <p>Brent's total income for that week</p> <p>= Brent's regular weekly salary + Overtime wage</p> $= \$3\,200.00 + \$360.00 = \$3\,560.00$ <p>Ans: \$3 560.00</p>	40.	<p>Sum of runs for Dale</p> $= 40 + 36 + 34 + 50 = 160$ <p>Average number of runs</p> $= 160 \div 4 = 40 \text{ runs}$ <p>Sum of runs for Jason</p> $= 50 + 40 + 70 + 80 = 240$ <p>Average number of runs</p> $= 240 \div 4 = 60 \text{ runs}$ <p>Difference in the average number of runs = Average for Jason – Average for Dale</p> $= 60 - 40 = 20 \text{ runs}$ <p>Ans: 20 runs</p>

SECTION 1

1.	$\begin{array}{r} 184 \\ - 16 \\ \hline 168 \end{array}$ <p>Ans: 168</p>	11.	$\begin{array}{r} \text{Kg} \quad \text{g} \\ 6^{-1} \quad 1300 \\ - 2 \quad 700 \\ \hline 3 \quad 600 \end{array}$ <p>Ans: 3 kg 600 g</p>
2.	<p>Total amount of money given away = \$23.00 x 2 = \$46.00 Amount of money remaining = \$60.00 – \$46.00 = \$14.00</p> <p>Ans: \$14.00</p>	12.	<p>15:20 in 12-hour format = hr min 15 20 – 12 00 <u>3 20</u> = 3:20 p.m.</p> <p>Ans:</p> 
3.	<p>$0.325 \times 100 = 32.5\%$</p> <p>Ans: 32.5%</p>	13.	<p>cm</p> <p>Ans: 5 cm</p>
4.	<p><u>Method 1</u> $\\$1.10 \div 0.05\text{c} = 22$ pieces</p> <p><u>Method 2</u> $\\$1.00 = 20$ 5c coin pieces $10\text{c} = 2$ 5c coin pieces $20 + 2 = 22$ 5c coin pieces</p> <p>Ans: 22 5c coin pieces</p>	14.	<p>Ans: 21st May</p>
5.	<p>$7.2 \times 9 = 64.8$</p> <p>Ans: 64.8</p>	15.	<p>Ans:</p> 
6.	<p>$32 \div 2 = 16$ $16 - 2 = 14$</p> <p>Ans: 14</p>	16.	<p>Number of hour segments the minute hand turned $= \frac{1}{4-1} \times \frac{12-3}{1} = 3$ Number the minute hand is now pointing to $= 5 + 3 = 8$</p> <p>Ans: 8</p>
7.	<p>$\frac{40-2}{1} \times \frac{4}{5-1} = 2 \times 4 = 8$</p> <p>Ans: 8</p>	17.	<p>Ans: A cone</p>
8.	<p>$\frac{21}{70} \times \frac{100}{1} = \frac{21}{7} \times \frac{10}{1} = 3 \times 10 = 30\%$</p> <p>Ans: 30%</p>		
9.	<p>$45 \div 5 = 9$ Value of the missing number $= 3 \times 9 = 27$</p> <p>Ans: 27</p>		
10.	<p>$119 \div 7 = 17$</p> <p>Ans: 17</p>		

18.	<p>Total $= \text{Mean} \times \text{Number of items}$ $= 5 \times 2 = 10$ The other number $= 10 - 7 = 3$ Ans: 3</p>
19.	<p>Number of points Terrance scored $= 45$ points Number of points Sandra scored $= 30$ points $45 - 30 = 15$ points Ans: 15 points</p>

20.	<p>Number of blocks $= 4 + 3 + 5 + 7 + 2 = 21$ blocks Number of ice cream cones each block represents $= 63 \div 21 = 3$ ice cream cones Ans: 3 ice cream cones</p>
-----	--

SECTION 2

21.	<p>Number of stickers Julian had at first $= 30 \times 12 = 360$ stickers Number of stickers Julian has now $= 360 + 8 = 368$ stickers Ans: 368 stickers</p>
22.	<p><u>Method 1</u> $\frac{2}{5} = \\$600.00$ $\frac{1}{5} = \\$600.00 \div 2 = \\300.00 Total salary $= \frac{5}{5} = \\$300.00 \times 5 = \\$1\,500.00$ $\frac{2}{3} = \frac{2}{3-1} \times \frac{1500-500}{1}$ $= 2 \times 500 = \\$1\,000.00$</p>
	<p><u>Method 2</u> Total salary $= \frac{600}{1} \div \frac{2}{5} = \frac{600-300}{1} \div \frac{5}{2-1} = 300 \times 5$ $= \\$1\,500.00$ $\frac{2}{3} = \frac{2}{3-1} \times \frac{1500-500}{1}$ $= 2 \times 500 = \\$1\,000.00$ Ans: \$1 000.00</p>

23.	<p>Position Lucy finished in the race $= 100 - 42 = 58^{\text{th}}$ place Number of runners who finished before Lucy $= 58 - 1 = 57$ runners Ans: 57 runners</p>
24.	<p>3 halves $= \frac{3}{1} \times \frac{1}{2} = \frac{3}{2} = 1 \frac{1}{2}$ Miss Betty's remainder $= 4 \frac{1}{2} - 1 \frac{1}{2} = 3$ 12 quarters $= \frac{12-3}{1} \times \frac{1}{4-1} = 3$ Ans: Yes, this is correct as the remaining 3 whole oranges is equivalent to 12 quarter oranges.</p>
25.	<p><u>Method 1</u> Number of seats in economy $= 180 \times 0.8 = 144$ seats Number of seats in first class $= 180 - 144 = 36$ seats <u>Method 2</u> Number of seats in first class $= 1.0 - 0.8 = 0.2$ $= 180 \times 0.2 = 36$ seats Ans: 36 seats</p>

26. Prime numbers between 20 and 40
= 23, 29, 31 and 37
 $23 + 29 + 31 + 37 = 120$
Ans: 120

27. $4\,368 \div 78 = 56$
Israel's answer = $56 + 4 = 60$
Ans: 60

28. $80\% = \frac{80}{100}$ when reduced by $20 = \frac{4}{5}$
 $33\frac{1}{3}\% = 0.33$
 $0.875 \times 100 = 87.5\%$
Ans:

Fraction	Decimal	Percentage
$\frac{4}{5}$	0.8	80%
$\frac{1}{3}$	0.33	$33\frac{1}{3}\%$
$\frac{7}{8}$	0.875	87.5%

29. Length of time the movie lasted
= hr min
 $\begin{array}{r} 5^{-1} \ 10^{+60} \\ 4 \ 70 \\ - 3 \ 50 \\ \hline 1 \ 20 \end{array} = 1 \text{ hour } 20 \text{ minutes}$

1 hour = 60 minutes
 $60 + 20 = 80 \text{ minutes}$
1 minute = 60 seconds
 $80 \text{ minutes} = 80 \times 60 = 4800 \text{ seconds}$
Ans: 4 800 seconds

30. Perimeter of the bedroom
= $\$900.00 \div \$30.00 = 30 \text{ m}$

Length of the bedroom
= (Perimeter \div 2) – Width
= $(30 \text{ m} \div 2) - 6 \text{ m}$
= $15 \text{ m} - 6 \text{ m} = 9 \text{ m}$
Ans: 9 m

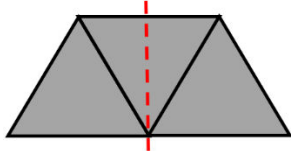
31. 1 litre = 1 000 ml
4 litres = $4 \times 1\,000 = 4\,000 \text{ ml}$

Fraction of the juice that remained
 $= \frac{5}{5} - \frac{3}{5} = \frac{2}{5}$
Amount of juice that remained
 $= \frac{2}{5} \times \frac{4000 - 800}{1} = 2 \times 800 = 1\,600 \text{ ml}$

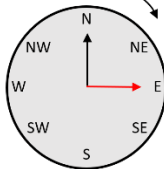
Amount of juice that remained in litres and millilitres = 1 L 600 ml
Ans: 1 L 600 ml

32. Weight of 6 books
= kg g
8 900
 $\times \quad \quad 6$
 $\hline 48^{+5} \ 5400$
 $\underline{53 \quad 400}$
Ans: 53 kg 400 g

33. **Ans:**



34. **Ans: 90°**



35. **Ans: The plant would grow at a faster rate during the 6th week because of the increase in rainfall. The rate of plant growth is proportional to the amount of rainfall, so if there is an increase in rainfall, there would be an increase in the rate of plant growth.**

36. Number of spoons
 $= 6 \times 2 = 12$ spoons
 Total number of utensils
 $= 12 + 8 + 6 = 26$ utensils
Ans: 26 utensils

Utensils	Tally
Spoons	
Knives	
Forks	

SECTION 3

37. Number of adults
 $= = \frac{350 - 70}{1} \times \frac{1}{5} = 70$ adults

Number of boys and girls
 $= 350 - 70 = 280$ boys and girls

X = Number of boys
 $X3$ = Number of girls
 $X + X3 = 4X$
 Number of boys
 $= 280 \div 4 = 70$ boys

Number of women
 $= 70 \text{ boys} \div 2 = 35$ women
 Number of men
 $= 70 \text{ adults} - 35 \text{ women} = 35$ men

Percent of adults that were men
 $= = \frac{35}{70} \times \frac{100}{1} = 100 \div 2 = 50\%$
Ans: 50%

38. Perimeter of the living room
 $= (\text{Length} + \text{Width}) \times 2$
 $= (6 \text{ m} + 4 \text{ m}) \times 2$
 $= 10 \text{ m} \times 2 = 20 \text{ m}$

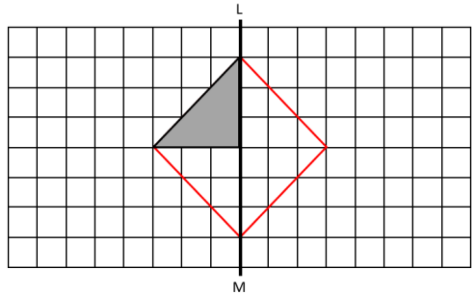
$1 \text{ m} = 100 \text{ cm}$
 Perimeter of the living room in cm
 $= 20 \text{ m} \times 100 = 2\,000 \text{ cm}$

Number of bricks in 1 row of bricks
 $= 2\,000 \text{ cm} \div 40 \text{ cm} = 50$ bricks

Number of bricks used in total
 $= 15 \text{ rows} \times 50 \text{ bricks} = 750$ bricks
Ans: 750 bricks

39. (a)
Ans: An isosceles triangle or right-angled triangle

(b)
Ans:

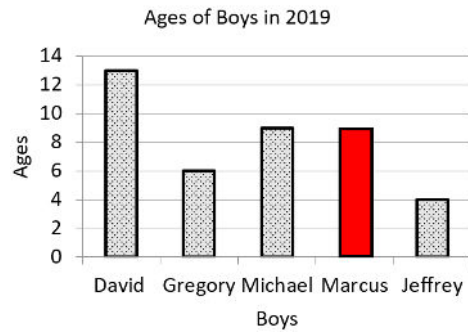


40.

(a)

$$2019 - 2014 = 5$$

$$\begin{aligned} \text{Marcus' age in 2019} \\ = 4 + 5 = 9 \text{ years old} \end{aligned}$$

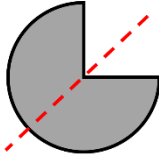
Ans:

(b)

Ans: Gregory

SECTION 1

1.	$\begin{array}{r} 6\ 475 \\ -\ 1\ 324 \\ \hline 5\ 151 \end{array}$ <p>Ans: 5 151</p>	9.	$\begin{array}{r} 2 \times \$10.00 = \$20.00 \\ 1 \times \$50.00 = \$50.00 \\ 3 \times \$5.00 = \$15.00 \\ \hline \$85.00 \end{array}$ <p>Ans: \$85.00</p>												
2.	$(5 \times 2) + 1 = 10 + 1 = 11$ <p>Ans: $\frac{11}{2}$</p>	10.	$8^2 - \sqrt{144}$ $64 - 12 = 52$ <p>Ans: 52</p>												
3.	Ans: 6 412	11.	$84\text{ m} \div 2.4\text{ m} = 35\text{ rulers}$ <p>Ans: 35 rulers</p>												
4.	<p>This pattern consists of descending square numbers:</p> $144 = 12^2$ $121 = 11^2$ $100 = 10^2$ $81 = 9^2$ $64 = 8^2$ <p>Ans: 64</p>	12.	<p>Sides AB + CD $= 6\text{ cm} + 12\text{ cm} = 18\text{ cm}$</p> <p>Side AC = BD Sides AC + BD $= \text{Perimeter} - 18\text{ cm}$ $= 36\text{ cm} - 18\text{ cm} = 18\text{ cm}$ BD = $18\text{ cm} \div 2 = 9\text{ cm}$</p> <p>Ans: 9 cm</p>												
5.	$1\text{ cake} = \frac{5}{5}$ $3\text{ cakes} = 3 \times \frac{5}{5} = \frac{15}{5}$ or 15 slices $15 - 8 = 7\text{ slices}$ or $\frac{7}{5} = 1\frac{2}{5}$ <p>Ans: $1\frac{2}{5}$</p>	13.	<p>Method 1</p> $11:10\text{ to }12:10 = 1\text{ hour}$ $12:10\text{ to }1:10 = 1\text{ hour}$ Total time taken = 2 hours												
6.	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">1</td> <td style="text-align: center;">9</td> </tr> </tbody> </table> <p>The hundreds digit is equal to or more than 5 so the thousands digit increases by 1.</p> <p>Ans: 7 000</p>	Thousands	Hundreds	Tens	Ones	6	5	1	9	<p>Method 2</p> $1:10$ in 24-hour format $= 1:10 + 12:00 = 13:10$ Total time taken $= \text{hr min}$ $13\ 10$ $- \underline{11\ 10}$ $\quad \underline{2\ 00} = 2\text{ hours}$ <p>Ans: 2 hours</p>					
Thousands	Hundreds	Tens	Ones												
6	5	1	9												
7.	$0.05 \times 100 = 5\%$ <p>Ans: 5%</p>	14.	$1\ 000\text{ grams} = 1\text{ kilogram}$ <table style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>kg</td> <td>g</td> </tr> <tr> <td>4</td> <td>786</td> </tr> <tr> <td>+ 2</td> <td>263</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td>6⁺¹</td> <td>1049</td> </tr> <tr> <td>7</td> <td>049</td> </tr> </tbody> </table> <p>Ans: 7 kg 49 g</p>	kg	g	4	786	+ 2	263	<hr/>		6 ⁺¹	1049	7	049
kg	g														
4	786														
+ 2	263														
<hr/>															
6 ⁺¹	1049														
7	049														
8.	<p>Number incorrect $= 80 - 56 = 24$</p> <p>Fraction incorrect $= \frac{24}{80} = \frac{3}{10}$</p> <p>Ans: $\frac{3}{10}$</p>														

15.	Ans: 
16.	Ans: C
17.	Ans: 12 edges


18.	<p>Number of students who like coconut ice cream $= 20 - (3 + 8 + 3)$ $= 20 - 14 = 6$ students</p> <p>Ans:</p> <table border="1"> <thead> <tr> <th>Ice-cream Flavours</th> <th>Number of Students</th> </tr> </thead> <tbody> <tr> <td>Chocolate</td> <td>III</td> </tr> <tr> <td>Cookies & Cream</td> <td>IIII III</td> </tr> <tr> <td>Coconut</td> <td>IIII I</td> </tr> <tr> <td>Strawberry</td> <td>III</td> </tr> </tbody> </table>	Ice-cream Flavours	Number of Students	Chocolate	III	Cookies & Cream	IIII III	Coconut	IIII I	Strawberry	III
Ice-cream Flavours	Number of Students										
Chocolate	III										
Cookies & Cream	IIII III										
Coconut	IIII I										
Strawberry	III										
19.	<p>$25 + 15 = 40$ Mean $= 40 \div 2 = 20$ $40 - 13 = 27$</p> <p>Ans: 27</p>										
20.	Ans: Set B										

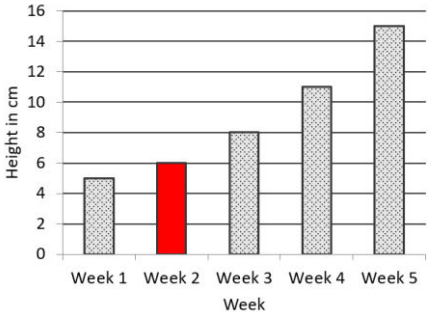
SECTION 2

21.	<p>Values can be converted to either decimal fractions, common fractions or percentages for comparison.</p> <p>$0.25 = 25\% = \frac{1}{4}$ $\frac{1}{5} = 0.20 = 20\%$ $45\% = 0.45 = \frac{9}{20}$</p> <p>Ans: 45%, 0.25, $\frac{1}{5}$</p>
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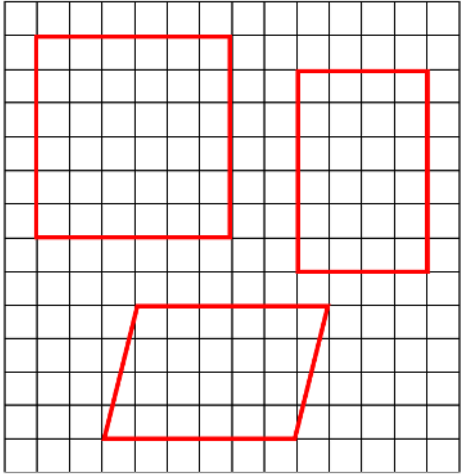
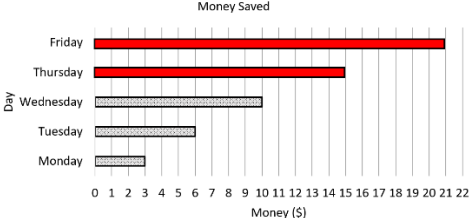
22.	<p>Method 1</p> <p>$\frac{3}{8} = 240$</p> <p>$\frac{1}{8} = 240 \div 3 = 80$</p> <p>$\frac{8}{8} = 80 \times 8 = 640$</p> <p>$\frac{1}{4-1} \times \frac{640-160}{1} = 160$</p> <p>Method 2</p> <p>$240 \div \frac{3}{8} = \frac{240-80}{1} \times \frac{8}{3-1} = 80 \times 8 = 640$</p> <p>$\frac{1}{4-1} \times \frac{640-160}{1} = 160$</p> <p>Ans: 160</p>
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23.	<p>Number planted on Tuesday $= 40 \times 4 = 160$ plants planted Total number planted $= 40 + 160 = 200$</p> <p>Percentage of the total number planted $= \frac{160}{200} \times \frac{100}{1} = \frac{160}{2} \times \frac{100}{1} = 80\%$ <u>Ans: 80%</u></p>	28.	<p>Amount saved daily $= \frac{1}{5} \times \frac{150}{1} = \\30</p> <p>5 days \times 4 weeks = 20 days Amount saved in 4 weeks $= 20 \text{ days} \times \\$30 = \\$600$ <u>Ans: \$600.00</u></p>
24.	<p>150 seashells used as a common dividend. Ian $= 150 \div 5 = 30$ seashells Jason $= 150 \div 3 = 50$ seashells <u>Ans: Jason will get the greater number. He divided the number of seashells using a smaller number (divisor) than Ian and will always get a larger answer (quotient) no matter how many seashells there are.</u></p>	29.	<p>Number of complete squares in shape = 15 Number of half squares in shape = 6 6 halves = 3 whole squares Total number of squares in shape $= 15 + 3 = 18$</p> <p>Area of each square $= 2 \text{ cm} \times 2 \text{ cm} = 4 \text{ cm}^2$</p> <p>Area of shape <math>= \text{Number of squares} \times \text{Area of each square}</math> $= 18 \times 4 \text{ cm}^2 = 72 \text{ cm}^2$ <u>Ans: 72 cm²</u></p>
25.	<p>$\frac{20}{100} \times \frac{500}{1} = 20 \times 5 = \\100 discount Price of shoes after discount $= \\$500 - \\$100 = \\$400$ <u>Ans: \$400.00</u></p>	30.	<p>Amount spent $= \\$400 + \\$240 = \\$640$ Money remaining $= \\$1\,000 - \\$640 = \\$360$</p> <p>Number of shirts that can be bought $= 360 \div 120 = 3$ shirts <u>Ans: 3 shirts</u></p>
26.	<p>Number of boxes $= 75 \div 5 = 15$ boxes 15 boxes \times \$20 = \$300 <u>Ans: \$300.00</u></p>	31.	<p>Time instructor left the pool $= \text{hr min}$ $\begin{array}{r} 9 \ 55 \\ - \ 05 \\ \hline 9 \ 50 \end{array}$</p> <p>Time spent in the pool $= \text{hr min}$ $\begin{array}{r} 9 \ 50 \\ - \ 9 \ 15 \\ \hline 0 \ 35 \end{array} = 35 \text{ minutes}$ <u>Ans: 35 minutes</u></p>
27.	<p>$0.20 = \frac{20}{100} = \frac{2}{10} = \frac{1}{5}$</p> <p>$\frac{1}{5} \times \frac{1200}{1} = 240$ more seats</p> <p>Number of seats available for the football match $= 1\,200 + 240 = 1\,440$ <u>Ans: 1 440 seats</u></p>		

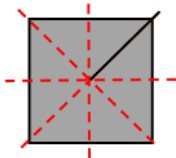
32.	<p>Total weight of the pumpkins</p> $\begin{array}{r} = \text{kg} \quad \text{g} \\ 2 \quad 400 \\ \times \quad \quad 3 \\ \hline 6^{+1} \quad 1200 \\ 7 \quad 200 \\ \hline \end{array}$ <p>Total weight of the potatoes</p> $\begin{array}{r} = \text{kg} \quad \text{g} \\ 9^{+1} \quad 1000 \\ 8 \quad 1000 \\ - 7 \quad 200 \\ \hline 1 \quad 800 \end{array}$ <p>1 kg = 1000 g Total weight of the potatoes in grams = 1 800 grams Weight of each potato = 1 800 grams ÷ 2 = 900 grams Ans: 900 g</p>
33.	Ans: Shape B
34.	 <p>Ans: Cuboid, Cylinder, Cone (choose any 2)</p>

35.	<p>The new tax would mean the cost per car will increase. Sales would decrease when the new tax is introduced.</p> <p>Ans: The new tax was charged in April as the sales decreased. The number of cars sold in July would be less than 50.</p>												
36.	<p>Week 5 to 4 = 15 cm – 11 cm = 4 cm Week 4 to 3 = 11 cm – 8 cm = 3 cm Week 3 to 2 = 8 cm – 6 cm = 2 cm Week 2 to 1 = 6 cm – 5 cm = 1 cm</p> <p>Ans: The plant adds an extra cm of growth each week.</p> <p style="text-align: center;">Growth of Red Bean Plant</p>  <table border="1"> <caption>Growth of Red Bean Plant</caption> <thead> <tr> <th>Week</th> <th>Height in cm</th> </tr> </thead> <tbody> <tr> <td>Week 1</td> <td>5</td> </tr> <tr> <td>Week 2</td> <td>6</td> </tr> <tr> <td>Week 3</td> <td>8</td> </tr> <tr> <td>Week 4</td> <td>11</td> </tr> <tr> <td>Week 5</td> <td>15</td> </tr> </tbody> </table>	Week	Height in cm	Week 1	5	Week 2	6	Week 3	8	Week 4	11	Week 5	15
Week	Height in cm												
Week 1	5												
Week 2	6												
Week 3	8												
Week 4	11												
Week 5	15												

SECTION 3

37.	<p>16 posts = 15 spaces 3 rolls of chain-link x 20 m = 60 m</p> <p>Length of wire between each post = $60 \div 15 = 4$ metres Spaces between 2nd and 6th posts = $6 - 2 = 4$ spaces</p> <p>Length of wire used between 2nd and 6th posts = 4 spaces x 4 m = 16 m Ans: 16 m</p>	39.	<p>A square, rectangle, or rhombus can be used once length does not exceed 6 cm.</p> <p>Ans:</p>  <p>(choose any 1)</p>
38.	<p>37. 1 kg = 1 000 g</p> <p>Weight of the bag of dog food in grams = $33.6 \times 1\,000 = 33\,600$ g</p> <p>Amount of food Rashma fed her dog each day = $400 \text{ g} \times 2 \text{ meals} = 800$ g</p> <p>Number of days it takes to finish one bag of dog food = $33\,600 \text{ g} \div 800 \text{ g} = 42$ days</p> <p>Number of weeks it takes to finish one bag of dog food = $42 \div 7 \text{ days} = 6$ weeks Ans: 6 weeks</p>	40.	<p>Pattern increases by \$1.00 daily. Monday = \$3 Tuesday = $\\$3 + \\$3 = \\$6$ Wednesday = $\\$6 + \\$4 = \\$10$ Thursday = $\\$10 + \\$5 = \\$15$ Friday = $\\$15 + \\$6 = \\$21$</p> <p>Ans:</p> 

SECTION 1

1.	<table border="1"> <thead> <tr> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>0</td> <td>2</td> <td>3</td> </tr> </tbody> </table> <p>Ans: 6 023</p>	Thousands	Hundreds	Tens	Ones	6	0	2	3	10.	$9^2 = 9 \times 9 = 81$ $2^3 = 2 \times 2 \times 2 = 8$ $81 + 8 = 89$ Ans: 89		
Thousands	Hundreds	Tens	Ones										
6	0	2	3										
2.	<table border="1"> <thead> <tr> <th>Ones</th> <th>Tenths</th> <th>Hundredths</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>.</td> <td>7 9</td> </tr> </tbody> </table> <p>The hundredths digit is equal to or more than 5 so the tenths digit increases by 1.</p> <p>Ans: 3.8</p>	Ones	Tenths	Hundredths	3	.	7 9	11.	Length of the movie = hr min $\begin{array}{r} 10^{-1} \quad 15^{+60} \\ \hline 9 \quad 75 \\ - 8 \quad 52 \\ \hline 1 \quad 23 \end{array}$ <p>Ans: 1 hour and 23 minutes</p>				
Ones	Tenths	Hundredths											
3	.	7 9											
3.	$(15 \times 3) + 4 = 45 + 4 = 49$ $\frac{49}{15}$ <p>Ans: $\frac{49}{15}$</p>	12.	$1 \text{ m} = 100 \text{ cm}$ Length of the table $= 3.4 \text{ m} \times 100 = 340 \text{ cm}$ Ans: 340 cm										
4.	Sum of the coins shown $= 10\text{¢} + 10\text{¢} + 5\text{¢} + 5\text{¢} + 1\text{¢} + 25\text{¢}$ $= 56\text{¢}$ Sum of the missing coins $= 71\text{¢} - 56\text{¢} = 15\text{¢}$ $15\text{¢} = 10\text{¢} + 5\text{¢}$ Values of the missing coins $= 5\text{¢}$ and 10¢ Ans: 5¢ and 10¢	13.	Number of cubes in object $= L \times W \times H$ $= 3 \times 3 \times 2 = 18$ cubes Volume of object $= 18 \text{ cubes} \times 8 \text{ cm}^3 = 144 \text{ cm}^3$ Ans: 144 cm³										
5.	$\frac{80}{100} \times \frac{200}{1} = 80 \times 2 = 160$ Ans: 160	14.	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding-right: 20px;">g</td> <td>mg</td> </tr> <tr> <td style="padding-right: 20px;">5</td> <td>350</td> </tr> <tr> <td style="padding-right: 20px;">x</td> <td><u>6</u></td> </tr> <tr> <td></td> <td>$30^{+2} \quad 2100$</td> </tr> <tr> <td></td> <td>$32 \quad 100$</td> </tr> </table> $= 32 \text{ g } 100 \text{ mg}$ Ans: 32 g 100 mg	g	mg	5	350	x	<u>6</u>		$30^{+2} \quad 2100$		$32 \quad 100$
g	mg												
5	350												
x	<u>6</u>												
	$30^{+2} \quad 2100$												
	$32 \quad 100$												
6.	$\$2\,400.00 - \$1\,900.00 = \$500.00$ Ans: \$500.00	15.	Ans: 										
7.	$\frac{2}{5} = \frac{4}{10} = 0.4$ Ans: 0.4	16.	Ans: Two 90° angles										
8.	$1.75 \div 7 = 0.25$ Ans: 0.25	17.	Ans: 2 pairs of equal sides										
9.	Number of tops $= 8 \times 13 = 104$ tops Number of tops remaining $= 104 - 30 = 74$ tops Ans: 74 spinning tops												

18.	<p>Total number of goals scored $= 2 + 4 + 5 + 1 + 3 + 3 = 18$ goals Mean = Total number of goals scored \div Number of games $= 18 \div 6 = 3$ goals Ans: 3 goals</p>
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19.	Ans: 3 students
20.	Ans: Company B

SECTION 2

21.	<p>Weekly wage $= \\$9\,600.00 \div 4 \text{ months} = \\$2\,400.00$ Hourly rate of pay $= \\$2\,400.00 \div 40 = \\60.00 per hour Ans: \$60.00 per hour</p>
22.	<p>Fraction of the cloth used to make shirts and pants $= \frac{2}{5} + \frac{1}{4}$ LCM of 4, 5 = 20 $\frac{2}{5} = \frac{8}{20}$ $\frac{1}{4} = \frac{5}{20}$ $\frac{8}{20} + \frac{5}{20} = \frac{13}{20}$ Fraction of the cloth remaining $= \frac{20}{20} - \frac{13}{20} = \frac{7}{20}$ Length of cloth remaining $= \frac{7}{20} \times \frac{60}{1} = 7 \times 3 = 21 \text{ m}$ Ans: 21 m</p>
23.	<p>Number of marks Ryan scored $= \frac{65-13}{100-20} \times \frac{80}{1} = \frac{13}{20-1} \times \frac{80}{1}$ $13 \times 4 = 52$ marks Number of marks Luke scored $= 52 + 12 = 64$ marks Percent of the marks Luke scored $= \frac{64}{80} \times \frac{100}{1} = 640 \div 8 = 80\%$ Ans: 80%</p>

24.	<p>Numbers between 40 and 60 are 42, 47 and 53. The prime numbers are 47 and 53. Half of 98 = $98 \div 2 = 49$ $47 < 49$ Ans: 47</p>
25.	<p>Number of beads in each pattern $= 7 + 5 = 12$ beads Number of patterns of beads $= 60 \div 12 = 5$ patterns of beads Number of red beads $= 5 \times 5 = 25$ red beads Ans: 25 red beads</p>
26.	<p>Number of markers Yasmin has $= 24 \div 2 = 12$ markers Number of markers Lisa has $= 12 + 4 = 16$ markers Number of markers they have altogether $= 24 + 12 + 16 = 52$ markers Ans: 52 markers</p>
27.	<p>$\frac{2}{5-1} \times \frac{100-20}{1} = 2 \times 20 = 40\%$ $0.03 \times 100 = 3\%$ $40\% + 3\% + 25\% = 68\%$ $68\% = \frac{68}{100}$ when reduced by 4 = $\frac{17}{25}$ Ans: $\frac{17}{25}$</p>
28.	<p>$\sqrt{144} = 12$ $1\,512 \div 12 = 126$ Ans: 126</p>

29.	<p>Length of one side of the big square $= \sqrt{\text{Area}} = \sqrt{100} = 10 \text{ cm}$ Length of one side of the small square $= 10 \text{ cm} \div 2 = 5 \text{ cm}$</p> <p>Perimeter of each of the smaller squares $= \text{Side} \times 4$ $= 5 \text{ cm} \times 4 = 20 \text{ cm}$ <u>Ans: 20 cm</u></p>
30.	<p>30 days in the month 4 Sundays + 4 Saturdays + 1 weekday holiday = 9 Days Justin works = $30 - 9 = 21$ days <u>Ans: 21 days</u></p>
31.	<p>Total length of time the concert lasted $= \text{hr min}$ $\begin{array}{r} 11 \ 55 \\ - \ 8 \ 05 \\ \hline 3 \ 50 \end{array}$ 3 hours 50 minutes</p> <p>$1 \frac{3}{4}$ hours = 1 hr 45 mins</p> <p>Total length of time the 2 halves of the concert lasted $= \text{hr min}$ $\begin{array}{r} 1 \ 45 \\ \times \quad 2 \\ \hline 2^{+1} \ 90^{-60} \\ \hline 3 \ 30 \end{array}$ 3 hours 30 mins</p> <p>Total length of time the intermission lasted $= \text{hr min}$ $\begin{array}{r} 3 \ 50 \\ - \ 3 \ 30 \\ \hline \quad 20 \end{array}$ <u>Ans: 20 minutes</u></p>

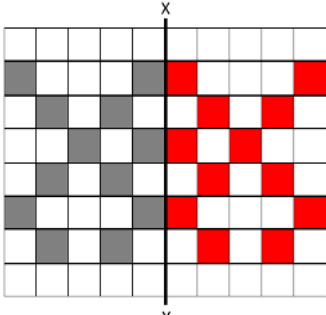
32.	<p>Weight of Book B $= \text{kg g}$ $\begin{array}{r} 7 \ 200 \\ + \ 2 \ 250 \\ \hline 9 \ 450 \end{array}$</p> <p>Combined weight of books $= \text{kg g}$ $\begin{array}{r} 7 \ 200 \\ + \ 9 \ 450 \\ \hline 16 \ 650 \end{array}$ <u>Ans: 16 kg 650 g</u></p>								
33.	<p><u>Ans:</u></p> <table border="1"> <thead> <tr> <th>Solid</th> <th>Number of Faces</th> <th>Number of Edges</th> <th>Number of Vertices</th> </tr> </thead> <tbody> <tr> <td>Square-based pyramid</td> <td><u>5</u></td> <td><u>8</u></td> <td><u>5</u></td> </tr> </tbody> </table>	Solid	Number of Faces	Number of Edges	Number of Vertices	Square-based pyramid	<u>5</u>	<u>8</u>	<u>5</u>
Solid	Number of Faces	Number of Edges	Number of Vertices						
Square-based pyramid	<u>5</u>	<u>8</u>	<u>5</u>						
34.	<p><u>Ans: The cross-section of a solid is the inner surface of the solid when it is cut in half. A cylinder has a circular cross section.</u></p>								
35.	<p>Number of values $= \text{Sum of values} \div \text{Mean}$ Number of subjects Makena wrote $= 680 \div 85 = 8$ subjects Number of subjects Obasi wrote $= 644 \div 92 = 7$ subjects <u>Ans: Obasi</u></p>								
36.	<p>Total number of points gained from losses = $3 \times 0 = 0$ points</p> <p>Total number of points gained from draws = $6 \times 1 = 6$ points</p> <p>Total number of points gained from wins = $9 \times 3 = 27$ points</p> <p>Total number of points the team earned = $0 + 6 + 27 = 33$ points <u>Ans: 33 points</u></p>								

SECTION 3

37.	<p>Total number of figs = $18 \times 4 = 72$ figs</p> <p>Number of figs sold = $40 + 12 = 52$ figs</p> <p>Number of figs remaining = $72 - 52 = 20$ figs</p> <p>Fraction of the figs remaining = $\frac{20}{72}$ when reduced by 4 = $\frac{5}{18}$ Ans: $\frac{5}{18}$</p>	39.	<p>(a) Ans: 1 pair</p> <p>(b) Ans: Angles P, Q and R</p> <p>(c) Ans: Angles R and S</p>
38.	<p>1 m = 100 cm Length of 1 sheet of bristol board = $100 \text{ m} \times 3 = 300 \text{ cm}$ Width of 1 sheet of bristol board in = $100 \text{ m} \times 2 = 200 \text{ cm}$</p> <p>Number of invitations Avion can get from 1 sheet of bristol board = $\frac{\text{Area of the sheet of bristol board}}{\text{Area of a wedding invitation}}$ = $\frac{\text{Length} \times \text{width}}{\text{Length} \times \text{width}} = \frac{300 - 6 \times 200 - 5}{50 - 1 \times 40 - 1}$ = $6 \times 5 = 30$ wedding invitations</p> <p>Number of sheets of bristol board required to make all the invitations = $360 \div 30 = 12$ sheets of bristol board Ans: 12 sheets of bristol board</p>	40.	<p>Total of the 1st set of numbers = $18 + 24 = 42$ Mean of the 1st set of numbers = $42 \div 2 = 21$</p> <p>Total of the 2nd set of numbers = Mean x Number of numbers = $21 \times 3 = 63$</p> <p>Value of the missing number = $63 - (19 + 32)$ = $63 - 51 = 12$ Ans: 12</p>

SECTION 1

1.	<table border="1"> <thead> <tr> <th>Mill</th> <th>Hund</th> <th>Ten</th> <th>Thou</th> <th>Hund</th> <th>Tens</th> <th>Ones</th> </tr> <tr> <th>Thou</th> <th>Thou</th> <th>Thou</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>6</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>9</td> </tr> </tbody> </table> <p>Ans: 1 600 029</p>	Mill	Hund	Ten	Thou	Hund	Tens	Ones	Thou	Thou	Thou					1	6	0	0	0	2	9
Mill	Hund	Ten	Thou	Hund	Tens	Ones																
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2.	<table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> <th></th> <th>Tenths</th> <th>Hundredths</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>.</td> <td>4</td> <td>5</td> </tr> </tbody> </table> <p>Hundredths digit is equal to or more than 5 so the tenths digit increases by 1.</p> <p>Ans: 10.5</p>	Tens	Ones		Tenths	Hundredths	1	0	.	4	5											
Tens	Ones		Tenths	Hundredths																		
1	0	.	4	5																		
3.	<p>Method 1</p> $\frac{1}{6} = 40$ $\frac{6}{6} = 40 \times 6 = 240$ <p>Method 2</p> $40 \div \frac{1}{6} = \frac{40}{1} \times \frac{6}{1} = 240$ <p>Ans: 240</p>																					
4.	$\frac{\cancel{5} 1}{\cancel{20} 4} = \frac{1}{4}$ <p>Ans: $\frac{1}{4}$</p>																					
5.	<table border="1"> <thead> <tr> <th>Ones</th> <th></th> <th>Tenths</th> <th>Hundredths</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>.</td> <td>2</td> <td>2</td> </tr> <tr> <td>2</td> <td>.</td> <td>2</td> <td>0</td> </tr> <tr> <td>2</td> <td>.</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>.</td> <td>2</td> <td>1</td> </tr> </tbody> </table> <p>Ans: 2.2</p>	Ones		Tenths	Hundredths	0	.	2	2	2	.	2	0	2	.	1	0	0	.	2	1	
Ones		Tenths	Hundredths																			
0	.	2	2																			
2	.	2	0																			
2	.	1	0																			
0	.	2	1																			
6.	$25\% = \frac{1}{4}$ <p>Number of activities completed</p> $= \frac{1}{4} \times \frac{\cancel{320} 80}{1} = 80$ <p>Ans: 80 activities</p>																					
7.	$35 \div 8 = 4 \text{ remainder } 3$ $\frac{35}{8} = 4 \frac{3}{8}$ <p>Ans: $4 \frac{3}{8}$</p>																					
8.	<p>Fraction of goals scored = $\frac{2}{6} = \frac{1}{3}$</p> <p>Ans: $\frac{1}{3}$</p>																					
9.	<p>Price after discount</p> $= \$5\,000 - \$499 = \$4\,501$ <p>Ans: \$4 501.00</p>																					
10.	$\begin{array}{r} 3\,652 \\ - 3\,089 \\ \hline 563 \end{array}$ <p>Ans: 6</p>																					
11.	<p>Perimeter of the door</p> $= (\text{Length} + \text{Width}) \times 2$ $= (6 \text{ m} + 3 \text{ m}) \times 2$ $= 9 \text{ m} \times 2 = 18 \text{ m}$ <p>Ans: 18 m</p>																					
12.	<p>Length of one side</p> $= \sqrt{\text{Area}} = \sqrt{144 \text{ cm}^2} = 12 \text{ cm}$ <p>Length of 4 sides</p> $= 12 \text{ cm} \times 4 = 48 \text{ cm}$ <p>Ans: 48 cm</p>																					
13.	<p>60 minutes = 1 hour</p> <p>120 minutes = $120 \div 60 = 2$ hours</p> <p>Ans: 2 hours</p>																					
14.	<p>Students drank: $100\% - 10\% = 90\%$</p> $\frac{90}{100} \times \frac{5}{1} = \frac{9}{10} \times \frac{5 \cdot 1}{1}$ $= \frac{9}{2} = 4 \frac{1}{2} \text{ litres} = 4.5 \text{ litres}$ <p>1 litre = 1 000 millilitres</p> <p>Students drank 4.5 litres</p> $= 4.5 \text{ L} \times 1\,000 = 4\,500 \text{ ml}$ <p>Ans: 4 500 ml</p>																					

15.	<p>Ans:</p> 
16.	<p>Four $\frac{1}{4}$ turns = 1 whole turn. The hour hand returns to the same position, 6. Ans: 6</p>
17.	<p>Ans: Cone</p>

18.	<p>Total number of fish caught = $(6 + 7 + 4) \times 3$ = $17 \times 3 = 51$ fish Ans: 51 fish</p>
19.	<p>Mean = sum of items \div number of items = $(152 + 75 + 102 + 99) \div 4$ = $428 \div 4 = 107$ Ans: 107</p>
20.	<p>The mode or most frequent number is 13. Ans: 13</p>

SECTION 2

21.	<p>Add whole numbers. $4 + 2 = 6$</p> <p>Add fractions. $\frac{1}{4} = \frac{2}{8} \quad \frac{3}{8} + \frac{2}{8} = \frac{5}{8}$</p> <p>Add whole numbers and fractions. $6 + \frac{5}{8} = 6\frac{5}{8}$ Ans: $6\frac{5}{8}$</p>
22.	<p>Number of songs Vivek has = $437 - 39 = 398$ songs Number of songs altogether = $437 + 398 = 835$ songs Ans: 835 songs</p>
23.	<p>Total number of paintings needed = $36 - 12 = 24$ Percent of paintings needed = $\frac{24}{36} \times \frac{100}{1} = \frac{200}{3} = 66\frac{2}{3}\%$ Ans: $66\frac{2}{3}\%$</p>

24.	<p>Number of sacks of cement needed for 6 houses = $1\ 341 \times 6 = 8\ 046$ sacks of cement</p> <p>Number of pallets needed = $8046 \div 50 = 160 \text{ rem } 46$ Ans: 161 pallets of cement. The builder can only buy the cement in pallets of 50 sacks, not single sacks. A full pallet therefore needs to be bought to complete the job, although there would be sacks remaining.</p>
25.	<p>Cars that are not red = $125 - 45 = 80$ cars Percent of toy cars that are not red = $\frac{80}{125} \times \frac{100}{1} = \frac{80 \cdot 16}{5 \cdot 1} \times \frac{4}{1}$ = $16 \times 4 = 64\%$ Ans: 64%</p>

26. Number of 2-seater chairs = 13
 Number of seats = $13 \times 2 = 26$
 Number of remaining seats
 $= 32 - 26 = 6$ seats
 Number of 3-seater chairs
 $= 6 \div 3 = 2$ 3-seater chairs
Ans: 2 3-seater chairs

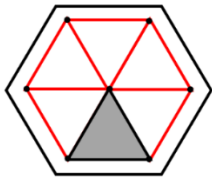
27. $40\% = \frac{40}{100} = 40 \div 100 = 0.40$ or 0.4
 $15\% = \frac{15}{100} = \frac{3}{20}$
 $\frac{1}{8} \times \frac{100-25}{1} = \frac{25}{2} = 12\frac{1}{2}\%$ or 12.5%
Ans:

Fraction	Decimal	Percentage
$\frac{2}{5}$	0.4	40%
$\frac{3}{20}$	0.15	15%
$\frac{1}{8}$	0.125	$12\frac{1}{2}\%$ or 12.5%

28. Loss
 $= \frac{12}{100-4} \times \frac{625-25}{1} = \frac{12-3}{4-1} \times \frac{25}{1}$
 $= 3 \times 25 = \$75$
 Selling price of watch
 $= \$625 - \$75 = \$550$
Ans: \$550.00

29. Weight of 3 grapefruits
 $= 600 \text{ g} \times 3 \text{ grapefruits} = 1\,800 \text{ g}$
 $1\,000 \text{ g} = 1 \text{ kg}$
 $1\,800 \text{ g} = 1\,800 \div 1\,000 = 1.8 \text{ kg}$
 Weight of watermelons
 $= 8 \text{ kg} - 1.8 \text{ kg} = 6.2 \text{ kg}$
 Weight of 1 watermelon
 $= 6.2 \text{ kg} \div 2 \text{ watermelons} = 3.1 \text{ kg}$
 3.1 kg rounded off to nearest kg
 $= 3 \text{ kg}$
Ans: 3 kg

30. $1 \text{ km} = 1000 \text{ m}$
 $230 \text{ m} = 230 \div 1000 = 0.23 \text{ km}$
 Route A
 $= 1.2 \text{ km} + 0.23 \text{ km} + 0.65 \text{ km}$
 $= 2.08 \text{ km}$
 Route B
 $= 0.82 \text{ km} + 1.15 \text{ km} = 1.97 \text{ km}$
 Jaheem will reach to the health centre faster using Route B as it is shorter.
Ans: Route B

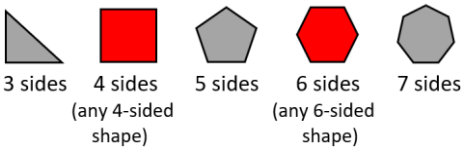
31. 
Ans:
 First, the workman needs to determine how many tiles are needed. The floor is shaped like a hexagon, therefore 6 tiles would be needed.
 Next, the workman needs to determine the length of border needed.
 Length of 1 side of a triangular tile
 $= 80 \text{ cm}$.
 Length of border for 1 tile
 $= 80 \text{ cm} \times 3 = 240 \text{ cm}$.
 Total length of border
 $= 240 \text{ cm} \times 6 \text{ tiles} = 1\,440 \text{ cm}$ or **14.4 m**.

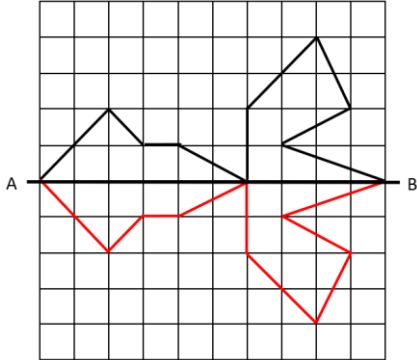
32. Length of the container
 = 2 cm x 4 = 8 cm
 Width of the container
 = 2 cm x 3 = 6 cm
 Height of the container
 = 2 cm x 5 = 10 cm

Number of cubes the container can hold when full
 = $\frac{\text{Volume of container}}{\text{Volume of cube}}$
 = $\frac{\text{Length} \times \text{Width} \times \text{Height}}{\text{Side} \times \text{Side} \times \text{Side}}$
 = $\frac{8 \text{ cm} \times 6 \text{ cm} \times 10 \text{ cm}}{2 \text{ cm} \times 2 \text{ cm} \times 2 \text{ cm}}$
 = 4 x 3 x 5 = 60 cubes

Number of cubes currently in the container
 Base = 4 cubes x 3 = 12
 Height = 4 cubes x 4 = 16
 Total = 12 + 16 = 28 cubes

Number of cubes required to fill the rest of the container
 = 60 – 28 = 32 cubes
Ans: 32 cubes

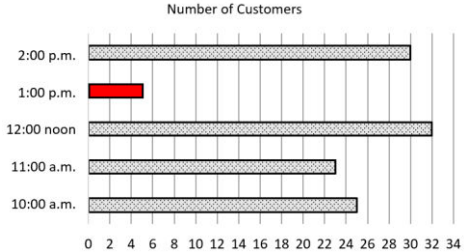
33. Pattern: Number of sides increase by 1.
Ans:


34. **Ans:**


35. Number of employees that ordered lunches
 = 10 + 12 + 4 = 26

Method 1
 $\frac{2}{3}$ of the employees = 26 employees
 Total number of employees
 = $\frac{26}{1} \div \frac{2}{3} = \frac{26}{1} \times \frac{3}{2} = 13 \times 3 = 39$ employees

Method 2
 $\frac{2}{3} = 26$ employees
 $\frac{1}{3} = 26 \div 2 = 13$ employees
 $\frac{3}{3} = 13 \times 3 = 39$ employees
Ans: 39 employees

36. $0.20 = \frac{1}{5}$
 10:00 a.m. = 25 customers
 1:00 p.m. = $\frac{1}{5} \times \frac{25}{1} = 5$ customers
Ans:


It will take the longest to be served at 12 noon as there would be the highest number of customers waiting in line.

SECTION 3

37.	<p>Cost of 9 pencils = $\\$2.00 \times 9 = \\18.00</p> <p>Money spent excluding 9 pencils = $\\$258.00 - \\$18.00 = \\$240.00$</p> <p>Cost of 1 pen and 1 pencil = $\\$6.00 + \\$2.00 = \\$8.00$</p> <p>Number of pens and pencils bought = $\\$240 \div \\$8 = 30$ each</p> <p>Number of pencils bought = $30 + 9 = 39$ pencils Ans: 39 pencils</p>
38.	<p>Length of side X = $40 \text{ m} \div 2 = 20 \text{ m}$</p> <p>Total length farmer fenced = $40 \text{ m} + 40 \text{ m} + 20 \text{ m} = 100 \text{ m}$</p> <p>1 post is used at the beginning. 21 posts – 1 post = 20 spaces</p> <p>Distance between each post = $100 \text{ m} \div 20 \text{ spaces} = 5 \text{ m}$</p> <p>Distance between every 2 posts = $5 \text{ m} \times 2 = 10 \text{ m}$ Ans: 10 m</p>

39.	<p>Ans:</p> <table border="1"> <thead> <tr> <th>Solid</th> <th>Properties</th> </tr> </thead> <tbody> <tr> <td>Triangular based pyramid</td> <td>4 triangular faces, 6 edges</td> </tr> <tr> <td>Cone</td> <td>1 vertex</td> </tr> <tr> <td>Triangular Prism</td> <td>9 edges</td> </tr> <tr> <td>Cylinder</td> <td>2 edges</td> </tr> </tbody> </table>	Solid	Properties	Triangular based pyramid	4 triangular faces, 6 edges	Cone	1 vertex	Triangular Prism	9 edges	Cylinder	2 edges						
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40.	<p>(a)</p> <p>Number of points scored in the red hoop = $4 \times 2 = 8$ points</p> <p>Number of balls thrown through the green hoop = $33 \div 3 = 11$</p> <p>Number of points scored in the blue hoop = $5 \times 4 = 20$ points</p> <p>Ans:</p> <table border="1"> <thead> <tr> <th>Colour Hoop</th> <th>Points Awarded</th> <th>Tally</th> <th>Points Scored</th> </tr> </thead> <tbody> <tr> <td>Red</td> <td>2</td> <td>IIII</td> <td>8</td> </tr> <tr> <td>Green</td> <td>3</td> <td>III I</td> <td>33</td> </tr> <tr> <td>Blue</td> <td>4</td> <td>IIII</td> <td>20</td> </tr> </tbody> </table> <p>(b) Ans: The green hoop</p>	Colour Hoop	Points Awarded	Tally	Points Scored	Red	2	IIII	8	Green	3	III I	33	Blue	4	IIII	20
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