### MATHEMATICS TEST 1 - ANSWERS

<p>| | | | | | | | | | | | | |</p>
<table>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>40.32</td>
<td>2.</td>
<td>25000</td>
<td>3.</td>
<td>411</td>
<td>4.</td>
<td>8.09</td>
<td>5.</td>
<td>448</td>
<td>6.</td>
<td>(3 \frac{2}{5})</td>
<td>7.</td>
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<tr>
<td>8.</td>
<td>(\frac{1}{10})</td>
<td>9.</td>
<td>$10</td>
<td>10.</td>
<td>108</td>
<td>11.</td>
<td>&lt;</td>
<td>12.</td>
<td>(3 \frac{000}{6} = 500g)</td>
<td>13.</td>
<td>Wednesday</td>
<td></td>
</tr>
</tbody>
</table>

14. \((2 \times 2 \times 2 = 8cm^3\) for small cube) \((27 \times 8 = 216cm^3\) for large cube)

15. Parallelogram

16. 

17. C – triangular base prism  
18. \(58 \times 5 = 290\)  
19. 32  
20. \(4 \times 6 = 24\)

21. 25 and 23  
22. 8 poles = 7 spaces \((9.5 \times 7 = 66.5m)\)

23. \(\left(\frac{240}{6} = 40 \text{ tables}\right) \left(40 \times 5 = 200 \text{ chairs}\right) \left(200 - 17 = 183\right) \left(\frac{183}{3} = 61 \text{ chairs}\right)\)

24. Purchasing one of each snack will cost Sita $23. She will have a balance of $22. She can buy 2 Nuts and 2 Juice with the change to give a total of 7 snacks and no money remaining.

25. \(\left(\frac{20}{100} \times \frac{165}{1} = 33\right) \left(165 - 33 = 132\right)\)  
26. \((55 - 8 = 47)\) and \((47 - 7 = 40)\)

27. Using a common factor of 4 to multiply the numerator and denominator of \(\frac{2}{3}\) will show that the two fractions are equivalent fractions. Therefore the two fractions are equal.

28. S.I. = \(9000 \times \frac{10}{100} \times 3 = $2700\)  
   \(\text{Total to repay} = (9000 + 2700 = $11700)\)  
   \(\left(\frac{11700}{36\text{months}} = $325\right)\)

29. \((24 + 9 = 33)\) \((33 \times 7 = 231)\)  
30. \((0.25 = \frac{25}{100} = 25\% \text{ or } \frac{1}{4})\) \(\left(\frac{3}{4} = 75\%\right)\) Therefore, both answers are correct since both answers will result in one whole.  
   (Any diagram to show 3 parts and 1 part to make one whole.)

31. \(58 - (18 \times 2) = 22\) \(\text{width} = \frac{22}{2} = 11cm\)  
   \(\text{Area} = 18 \times 11 = 198\)

32. \((800cm - 465cm = 335cm\text{ or }3m\ 35cm)\)
33. \((20 \times 20 \times 20 = 8000\text{cm}^3)\) \((\frac{3}{4} \times \frac{8000}{1} = 6000\text{cm}^3 = 6 \text{ litres})\)

34. \((800 \times 600) \div (40 \times 20) = 600\text{tiles} \ (600 \times 12 = $7200)\)

35. 

<table>
<thead>
<tr>
<th>Triangle</th>
<th>Type of Triangle</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Equilateral triangle</td>
</tr>
<tr>
<td>B</td>
<td>Isosceles triangle</td>
</tr>
<tr>
<td>C</td>
<td>Scalene triangle</td>
</tr>
</tbody>
</table>

36. 

37. 6 right angles

38. \((28 \times 4 = 112) \ (112 - 80 = 32) \left(\frac{32}{4} = 8\right)\) Therefore, 3 missing fruits to be drawn to complete plums.

39. \((60 + 35 + 55) \div 3 = 50 \ (50 \times 2 = 100) \ (100 - 84 = 16)\)

40. Martin (Martin and Laura) This/These parents are able to convince more people to purchase tickets. They sell tickets at a faster rate than the other parents.

41. \(\left(\frac{20}{100} \times 7200 = $1440\right) \ (7200 - 1440 = $5760) \ \left(\frac{1}{8} \times 5760 = $720\right)\)

\((5760 + 720 = $6480)\)  

42. a. \((7.5 \times 4 = 30\text{kg}) \ \left(\frac{30}{2} = 6\text{kg per pack}\right)\)  

b. \((180 \times 4 = 720)\)

\((720 + 140 = $840) \ \left(\frac{840}{5} = $168\right)\)

43. \((DW = 140 \div 20 = 7\text{cm}) \ (AD = 7 + 7 = 14\text{cm}) \ (AB = CD = \frac{84}{14} = 6\text{cm})\)

\((\text{Area of shaded part} = 7 \times 6 = 42\text{cm}^2)\)

44. a. parallelogram

b. parallelogram

45. \((\text{Total stamps collected} = 30 \times 5 = 150) \ (8 \times 1) + (7 \times 4) + (6 \times 3) + (5 \times 8) = 8 + 28 + 18 + 40 = 94) \ (150 - 94 = 56) \ (56 \div 4 = 14 \text{ stamps})\)
1. Eight hundred and seven thousand and three.
2. 5.22
3. 1374
4. 4
5. \(\frac{15}{4}\)
6. \(\frac{1}{4} \times \frac{80}{1} = 20\)
7. 32 \times 5 = 160
8. 100
9. 0.08
10. 3
11. 4.83kg
12. 12 \times 4 = 48cm^2
13. \(\frac{1200}{1000} = 1.2\) litres
14. 6cm – 2cm = 4cm
15. Angle C
16. Cube
17. 4 fishes
18. 7
19. 2
20. 6 \frac{5}{6} + 1 \frac{2}{3} (\frac{5}{6} + \frac{2}{3} = \frac{9}{6} = 1 \frac{1}{2}) \text{ Ans } = 8 \frac{1}{2}
21. \(\frac{2}{3}\) remainder = 20 \(\text{Remainder } = 20 \times 3 = 60\) \(\frac{4}{5} = 60\) \(\text{Total } = \frac{60}{1} \times \frac{5}{4} = 75\) oranges
22. Whole = \(\frac{60}{1} \times \frac{4}{3} = 80\) \(\frac{3}{5} \times \frac{80}{1} = 48\)
23. \((8 \times 9 = 72) \quad (72 – 4 = 68) \quad (68 \div 2 = 34) \quad (34 + 4 = 38\text{years old})
24. Ryan will make more money. Ryan will have less in a heap for the same price which means he is selling at a higher price. Ryan will have more heaps to sell and will end up with more money after selling more heaps than David.
25. \(\frac{150}{9} = 16 \text{ R } 6 \quad (9 – 6 = 3 \text{ more persons})
26. \(\left(\frac{2}{3}\right)\) remainder = 20 \(\text{Remainder } = 20 \times 3 = 60\) \(\frac{4}{5} = 60\) \(\text{Total } = \frac{60}{1} \times \frac{5}{4} = 75\) oranges
27. \((500 – 350 = 150) \quad \frac{150}{500} \times \frac{100}{3} = 30\%
28. \(\frac{12000 \times 5 \times 8}{100} = 48000. (12000 + 48000 = 168000)
29. \(1 \text{ chair } = \frac{1050}{3} = $350\) \(5 \text{ chairs } = 350 \times 5 = $1750\) \(\text{A table } = 3500 – 1750 = $1750\)
30. \(\frac{1}{4} \times \frac{450}{1} = $112.50 \quad (450 – 112.50 = $337.50)\)
31. \(2\frac{1}{2} \text{ litres } = 2250ml\) \(\frac{2250}{150} = 15\)
32. \(\frac{200 \times 50}{20 \times 10} = 50 \text{ tiles } \quad \quad (50 \times 7 = $350)\)
33. \(15000 – (6474 + 4087) = 4439\)g
34. \((6 + 12 + 8 + 8 + 18 + 16) = 68\text{cm}\)
35. Square – four-right angles
36. \(\frac{3}{4}\)
37. Square-Based Pyramid
38. Akeel – Frequency = 4

| Renny | ### | ### | ### |
39. 

![Bar Graph]

40. 

<table>
<thead>
<tr>
<th>Plants</th>
<th>Heights in cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>13</td>
</tr>
<tr>
<td>Peas</td>
<td>12</td>
</tr>
<tr>
<td>Ochro</td>
<td>15</td>
</tr>
<tr>
<td>Pepper</td>
<td>6.5</td>
</tr>
<tr>
<td>Cassava</td>
<td>14.5</td>
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</tbody>
</table>

41. \( \left( \frac{2}{3} \times \frac{360}{1} = 240 \right) \left( \frac{3}{5} \times \frac{240}{1} = 144 \right) \left( \frac{144}{6} = 24 \text{ bags} \right) \)

42. \( (28 \times 4 = 112) \left( 42 \times 3 = 126 \right) \left( 500 - (112 + 126) = 262 \right) \left( 262 \div 2 = 131 \text{ Two-Seaters} \right) \)

43. (Route A = 3260 + 2500 + 1700 = 7460m) (Route B = 6750m)
   (Route C = 2200 + 2050 + 1035 = 5285m)

Kerol should take Route C to get to school. Route C is the shortest of the three routes and by taking Route C, he would get to school faster than the other Routes.

44. (a)

(b) Zero lines of symmetry
(c) 2 angles

45. ST. THOMAS PRIMARY SCHOOL has more children living near the school. – More children walk to school which indicates that more children live within walking distance from the school. If children live far from the school, most likely children may not be able to walk to school.
1. five hundred and seven thousand and ninety-two. 

2. 6.5

3. >

4. \( \frac{90}{100} \times \frac{60}{1} = 54 \)

5. 5²

6. \( \frac{2}{5} \times \frac{9}{10} = \frac{9}{25} \)

7. \( \frac{48}{60} = \frac{4}{5} \)

8. \( (3370 - 337 = 3033) \)

10. 25c

11. 14cm

12. 11x11 = 121cm²

13. \( \frac{240}{60} = 4 \) hours

14. P of square/rectangle = 15 x 4 = 60 (60 – 10 = 50)

15. Isosceles Triangle

16. cuboid

17. 2

18. \( (124 + 286 + 208) \div 3 = \frac{618}{3} = 206 \)

19. \( \frac{72}{12} = 6 \) children

20. 46 – 15 = 31 at least

21. \( (\frac{7}{2} - 3 \frac{7}{10}) (\frac{5}{10} - \frac{7}{10}) (\frac{15}{10} - \frac{7}{10}) = \frac{8}{10} = \frac{4}{5} \)

(6 – 3 = 3) Ans = \( 3 \frac{4}{5} \)

22. 29.45

23. \( \frac{1}{4} \times \frac{80}{1} = $20 \)

\( \frac{40}{100} \times \frac{80}{1} = $32 \)

(80 – (32 + 20) = 28) \( \frac{1}{2} \times \frac{28}{1} = $14 \)

24. \( \frac{9}{20} \times \frac{100}{1} = 45\% \)

25. Dec = 35 x 3 = 105 (Total stamps = 105 + 35= 140) \( \frac{105}{140} = \frac{3}{4} = 0.75 \)

26. \( (\frac{24}{3} = 8) (5 \times 8 = 40 \) cups of water) \( \frac{3}{20} \times 240 = 36 (240 – 36 = 204) \frac{204}{4} = 51 \) bags

28. \( (47 – 7 = 40) \frac{3}{5} \times \frac{40}{1} = 16 \)

(16 + 7 = 23 years now)

29. (1 man will take 7 x 6 = 42 days) (3 men will take 42 ÷ 3 = 14)

30. (1 x 2) + (2 x 5) + (1 x 8) = 20 points (80 – 20 = 60 points) (60 ÷ 10 = 6 times)

31. 60 ÷ (4 x 3) = 5cm

32. 4.75 + 6.04 = 10.79km

33. Missing height = 4 + 4 + 4 = 12 Area of parts (5 x 12 = 60) (7 x 4 = 28)

Total area = 60 + 60 + 28 = 148cm²

34. Clock B

35. Cylinder, Cuboid, Triangular-Base Prism

36.

<table>
<thead>
<tr>
<th>SHAPES</th>
<th>PROPERTIES OF SHAPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape B</td>
<td>Has only one pair of perpendicular lines and two right angles.</td>
</tr>
<tr>
<td>Shape A</td>
<td>A quadrilateral with no right angles and two pairs of parallel lines.</td>
</tr>
</tbody>
</table>
37.

![Diagram of a grid with labeled points A and B]

38. \((65 + 72 + 83 + 91 + 54 = 365) \quad (365 ÷ 5 = 73) \quad (73 + 2 = 75) \quad (75 \times 6 = 450) \quad (450 - 365 = 85)\)

39. \((7 + 8 = 15 \text{ students})\)

40. Wednesday – No lunches were being served on Wednesday.

41. (a) \(\left(\frac{150}{3} = 50\right) \quad (50 \times 4 = 200 \text{ pies}) \quad (b) 50 \times 30 = 1500\)

42. \(\frac{3}{8} \times \frac{840}{1} = 315 \text{ children} \quad \left(\frac{2}{3} \times \frac{315}{1} = 210 \text{ males}\right) \quad \left(\frac{2}{5} \times \frac{210}{1} = 84 \text{ male children}\right)\)

43. \(\left(60 \times 100 \times 120 = 720000 \text{ cm}^3 = 720 \text{ litres}\right) \quad \left(\frac{720}{20} = 36\right) \quad (36 \times 5 = 180 \text{ mins})\)

\(\frac{180}{60} = 3 \text{ hours}\)

44. (a) 1. A quarter turn in an anticlockwise direction
   2. Three-quarter turns in a clockwise direction.
   (b)

![Diagram of a circle with points A, B, C, and D]

45. \(150 - (40 + 35 + 15 + 20) = 40 \text{ Art}\)

\(35 - 20 = 15 \quad \left(\frac{15}{150} \times \frac{100}{1} = 10\%\right)\)
1. 1265  
2. Four hundred and sixty-two thousand and seventy  
3. 27 x 6 = 162

4. 16.2  
5. $\frac{12}{8} = \frac{1}{2}$  
6. $\frac{1}{8}, \frac{1}{6}, \frac{1}{3}, \frac{1}{2}$  
7. 40% ÷ 2 = 20%  
8. $\frac{80}{4} = $20

9. $\frac{1}{8} \times \frac{320}{1} = $40  
10. $17.85 - $14.97 = $2.88  
11. 450cm  
12.

13. $\sqrt{121} = 11$  
14. $2 \frac{1}{2} \ l = 2500ml \ (\frac{2500}{250} = 10 \ glasses)$  
15.  
16. 3 – right angles

17. Scalene triangle  
18. // / /  
19. Cricket  
20. 75 – 60 = 15 children

21. $4 \frac{1}{5} + \frac{7}{10} = \frac{21}{5} \times \frac{7}{7} = \frac{6}{1} = 6$  
22. $(24 \times 4 = 96)$  
23. $\frac{45}{3} = 15 \ (10 \times 15 = 150 \ cups)$

24. $\frac{2}{5} + \frac{3}{10} = \frac{7}{10} \ (\frac{10}{10} - \frac{7}{10} = \frac{3}{10} \ left)$  
25. $(2 + 1 + 3 = 6 \ poles \ make \ one \ group)$  
$(\frac{40}{6} = 6 \ groups \ R \ 4) \ (6 \times 3 = 18 \ green + 1 \ green \ from \ the \ remaining \ four = 19 \ green)$

26. $\frac{1}{2} \times \frac{750}{1} = 375 \ ($750 + $375 = $1125)  
27. $\frac{8000}{1} \times \frac{5}{100} \times \frac{5}{2} = $1000 \ ($8000 + 1000 = $9000)$

28. (a) $\frac{1}{3}$  
(b) 35%  
(c) 0.06  
29. 25, 36, 144

30. $(\frac{3}{4} \ of \ R = 90) \ (R = \frac{90}{1} \times \frac{4}{3} = 120) \ (\frac{2}{5} \ of \ Whole = 120) \ (Whole = \frac{120}{1} \times \frac{5}{3} = $200)$

31. $(\frac{9750}{250} = 39 \ bags) \ (39 \times 3 = $117)$  
32. $80000 \div (50 \times 16) = \frac{80000}{800} = 100cm$

33. $((0.75m = 75cm) \left(\frac{75}{15} = 5\right) \ (5 \times 10 = 50 \ beads)$

34. (Perimeter of Sq. = 9 x 4 = 36) $(36 - (12 + 12) = 12 \ 2-width) \ (\text{Width}= 12 \div 2 = 6cm)$

35. Triangular-Based Prism – This shape will make it easiest for water/objects to run off the roof/ not settle on the roof.
36. 

37. a & c  

38. (23 \times 4 = 92) (92 + 33 = 125) (125 \div 5 = 25)

39. Cats – The most cats were sold. Most people liked cats. The store owner will make more money in his business from selling cats.

40. (One Week (15 + 10 + 5 + 0 + 10 = $40 saved per week) (40 \times 3 = $120)

41. \(\frac{80}{100} \times \frac{300}{1} = 240 \quad \left(\frac{3}{4} \times \frac{240}{1} = 180\right) \quad \left(\frac{180}{6} = 30 \text{ tables}\right) (240 - 180 = 60)
\)
\(\left(\frac{60}{4} = 15 \text{ tables}\right) (\text{Total tables used} = 30 + 15 = 45 \text{ tables})\)

42. \(\left(\frac{1}{2} \times \frac{260}{1} = 130 \text{ marbles}\right) \left(\frac{60}{100} \times \frac{130}{1} = 78 \text{ marbles}\right) \left(\frac{2}{3} \times \frac{78}{1} = 52 \text{ marbles}\right)\)

43. (250 \times 10 = 2500g) (2500g – 750g = 1750g = 1.75kg) Nearest Whole = 2kg

44. 

<table>
<thead>
<tr>
<th>Number of angles less than a right angle</th>
<th>Number of angles greater than a right angle</th>
<th>Number of angles equal to a right angle</th>
<th>Two angles equal to a half turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
<td>(de) (ab)(ad) (cb) (cd) Any one</td>
</tr>
</tbody>
</table>

45. (a) Total = (76 \times 5 = 380) (Spelling = 380 –(65+ 75 + 75 + 95) = 70)
(b) (86 \times 5 = 430) (430 – 380 = 50 more marks)
MATHEMATICS TEST FIVE – ANSWERS

1. 1  
2. \( \frac{5}{8} \times \frac{40}{1} = 25 \text{ pages} \)  
3. \( \frac{45}{100} \times \frac{80}{1} = 36 \)  
4. 503.42  
5. 17

6. \( 2 \frac{1}{2} \times 16 = \frac{5}{2} \times \frac{16}{1} = 40 \text{ km} \)  
7. 92.2  
8. 7  
9. 5  
10. 2014 – 18 = 1996

11. \( (8 + 7) \times 2 = 30 \text{ cm} \)  
12. 3.5 or 3 \( \frac{1}{2} \)  
13. \( \begin{array}{c} \text{14.} \\
15 \times 15 = 225 \text{ cm}^2 \\
15. B \end{array} \)

16. equilateral  
17. Cone  
18. Dog  
19. 305 – (64 + 74 + 67) = 100 \( \left( \frac{100}{2} = 50 \right) \)

20. 305 ÷ 5 = 61  

22. \( 8 \frac{7}{10} - 3 \frac{1}{5} \left( \frac{7}{10} - \frac{2}{10} = \frac{5}{10} = \frac{1}{2} \right) (8 – 3 = 5) \) Ans = 5 \( \frac{1}{2} \)

23. \( (52 \times 12 = 624) (624 + 5 = 629) \)

24. \( \left( \frac{1}{4} = \frac{2}{8} \right) \left( \frac{2}{8} + \frac{1}{8} + \frac{3}{8} = \frac{6}{8} = \frac{3}{4} \text{ spent} \right) \left( \frac{1}{4} = \text{remainder} = \$40 \right) \left( \text{Total} = \frac{40}{1} \times \frac{4}{1} = \$160 \right) \)

25. \( \left( \frac{2}{5} \times \frac{120}{1} = 48\right) \left( \frac{3}{4} \times \frac{48}{1} = 36 \text{ fixed} \right) \left( \frac{3}{5} \times \frac{120}{1} = 72 \text{ good} \right) \left( \text{Total good} = (72 + 36 = 108) \right) \)

26. \( \left( \frac{2}{2} + \frac{3}{4} + \frac{1}{2} \right) \left( \frac{2}{4} + \frac{3}{4} + \frac{2}{4} = \frac{7}{4} = \frac{1}{3} \right) (2 + 3 + 2 = 7) \left( \text{Ans} = 7 + \frac{3}{4} = 8 \frac{3}{4} \right) \)

27. \( (13.50 \times 3 = \$40.50) (100.00 – 40.50 = \$59.50) \)

28. \( \frac{2}{3} = \frac{16}{24} = \frac{4}{6} = \frac{24}{36} \) The answer was found by forming equivalent fractions- by multiplying or dividing the numerator and the denominator by a common number/factor.

29. \( \left( \frac{40}{100} \times \frac{160}{1} = \$64 \text{ per book.} \right) (160 – 64 = \$96 \text{ bag}) (96 \times 4 = 384) (384 + 64 = \$448) \)

30. \( (6000 \times \frac{5}{100} \times \frac{1}{2} = \$600 \text{ interest}) (6000 + 600 = 6600) (\frac{6600}{24} = \$275) \)

31. Divide shape into two rectangles and find missing sides (16cm and 11cm)  
\( (16 \times 8 = 128) (16 \times 11 = 176) (128 + 176 = 304 \text{ cm}^2) \)

32. 

The area of the seventh square can be found by multiplying 7 by 7.

33. \( (12.4 \text{ km} + 2.75 \text{ km} = 15.15 \text{ km}) \) (Approximately 15km to nearest whole km)

34. \( (60 \times 10 \times 20) ÷ (5 \times 5 \times 5) = 96 \text{ cubes} \)

35. E (East)
36. Isosceles Triangle

37. The number 42 represents the perimeter of the triangle. The triangle is an equilateral triangle. An equilateral triangle has all sides equal. Therefore, $14 \times 3 = 42$.

38. $(13 \text{ faces} \times 20 = 260) (380 - 260 = 120) (120 \div 20 = 6 \text{ faces for Salmon})$

39. (a) $1415 - (257 + 323 + 290 + 265) = 280$ for Wednesday  (b) $1415 \div 5 = 283$

40. $120 - 90 = 30 \text{ children}$

41. $(12 \times 2 = 24 \text{ kg corn per bed}) (8 \times 6 = 48 \text{ kg of peas per bed}) (24 + 48 = 72 \text{ kg total per bed}) (72 \times 40 = 2880 \text{ kg in the truck})$

42. $\frac{45}{100} \times \frac{240}{1} = 108 \text{ children} \left(\frac{1}{5} \times \frac{108}{1} = 27 \text{ boys} \right) \left(\frac{2}{3} \times \frac{27}{1} = 18 \text{ boys under nine.} \right)$

$27 - 18 = 9 \text{ boys over nine years}$

43. $(15 \times 200 = 3000 \text{ ml}) (5000 - 3000 = 2000 \text{ ml}) (2000 \div 250 = 8 \text{ glasses}) (15 + 8 = 23 \text{ persons})$

44.

45. Game 1 = 22,  Game 2 = 32,  Game 3 = 26,  Game 4 = 40

Total points $= 22 + 32 + 26 + 40 = 120$  Ans: $\frac{3}{8} \times \frac{120}{1} = 45 \text{ points}$
1. Four hundred and eight thousand and seven.
2. 3000 or 3-thousands
3. \( \frac{5}{100} = \frac{1}{20} \)
4. 3
5. \( \frac{41}{8} \)
6. 8000
7. 66
8. 8
9. \((15 \times 7 = 105 \text{ buttons})\)
10. \( \frac{300}{5} = 60 \text{ five-dollar bills} \)
11. millilitres
12. \( \frac{200}{60} = 3 \text{ hours 20 minutes} \)
13. \((60 – (12 + 12)) = 36 \) \((36 \div 2 = 18 \text{ cm})\)
14. \((3 \text{ kg} – 2 \text{ kg} = 1 \text{ kg} ) \) \((1 \text{ kg} = 2 \text{ halves})\) Ans = 2
15. Triangular-Based Prism
16. 2 lines
17. Angle B
18. \((24 \times 2 = 48) \) \((48 – 17 = 31)\)
19. \((6 \times 2 = 12 \text{ students})\)
20. \((20 – 8 = 12)\)
21. \(3 \frac{1}{2} \times 2 \frac{2}{3} = \frac{7}{2} \times \frac{8}{3} = \frac{28}{3} = 9 \frac{1}{3} \)
22. \((600 – 240 = 360) \) \((\frac{360}{600} \times \frac{100}{1} = 60\%)\)
23. \(\left(\frac{45}{5} = 9\right) \) \((9 \times 2 = 18 \text{ days})\)
24. \(\left(\frac{3}{8} = 600 \right) \left(\text{Total} = \frac{600}{1} \times \frac{8}{3} = 1600 \right) \left(\frac{40}{100} \times \frac{1600}{1} = 640 \right) \left(1600 – 640 = 960 \text{ animals} \right)\)
25. \((25 \times 23 = 575) \) \((575 – 275 = 300)\)
26. \(\left(\frac{490}{7} = 70 \text{ shirts} \right) \left(\frac{70}{8} = 8 \text{ boxes sealed 6 remainder} \right)\) Answer = 6 shirts
27. \((420 – 347 = 73) \) \((73 + 8 = 81) \) \((\sqrt{81} = 9)\)
28. \((2 + 3 = 5) \) \((60 \div 5 = 12) \) \((12 \times 2 = 24 \text{ groups}) = 24 \times 4 = 96 \text{ ribbons}\)
29. (a) 720 + 83 = $803  (b) 850 + 130 = $980
30. One shirt will cost less. (Two shirts will be 60\% of total cost. Therefore, one shirt will be 30\% of the total cost which is less than the 40\% for the trousers.)
31. \(\frac{3000}{200} = 15 \text{ packets}\)
32. Missing sides = \((17 + 16 = 33) \) \((29 – 16 = 13)\)
Distance around = \((33 + 17 + 16 + 13 + 29 = 124 \text{ m})\) Twice = \(124 \times 2 = 248 \text{ m}\)
33. 8:05am – 6:15am = 1hour 50mins
34. \((60 \times 30 \times 20 = 36000 \text{ cm}^3) \) \((36000 \div 1000 = 36) \) \((\frac{3}{4} \times \frac{36}{1} = 27 \text{ litres})\)
35. 2 lines of symmetry
36. Right-Angle & Isosceles
37. \begin{tabular}{|c|c|c|c|}
\hline
SOLID & NUMBER OF EDGES & NUMBER OF VERTEXES & NUMBER OF FACES \\
\hline
Triangular-Based Prism & 9 & 6 & 5 \\
\hline
\end{tabular}
38. \((100 – 90 = 10) \) \((35 – 10 = 25)\)
39. \((65 \times 5 = 325) \) \((325 – (62 + 73 + 49 + 68) = 73)\)
40. Shade 7 blocks
41. \((950 + 310 = 1260 \text{ toys – Factory B}) \left(\frac{950}{50} = 19 \text{ boxes – Factory A} \right) \left(\frac{1260}{60} = 21 \text{ boxes – B} \right) \) \((21 – 19 = 2 \text{ boxes more})\)
42. \(\left(\frac{2}{5} \times \frac{2400}{1} = 480 \right) \) \((2400 – 480 = $1920 – \text{Store A} \right) \left(\frac{1}{4} \times \frac{2500}{1} = 625 \right) \) \((2500 – 625 = $1875 – \text{Store B} \right) \) \((2400 – 490 = $1910 – \text{Store C} \right) \) Store B is cheapest
43. \((\frac{500}{20} \times \frac{400}{20} = 500 \text{ tiles}) \) \((500 \times 9 = $4500)\)
44. (a) NE  (b) SW
45. Birds = \((150 – (45 + 38 + 2 + 29) = 36)\) Snakes are least liked and are most likely to be the least purchased animal by children for pets. Snakes will be kept a longer time at the pet shop since they are the least liked by children and children may not want to take them home.
MATHEMATICS TEST SEVEN - ANSWERS

1. 6125  2. $\frac{1}{10}$  3. $\frac{1}{4}$  4. $\frac{2}{5} \times \frac{20}{1} = 8$ blocks. Shade any 8 blocks.  5. 4

6. 69.36  7. $\frac{7}{14} = 50\%$  8. $\frac{12}{16} = 75\%$  9. $\$122.46$ 10. $\frac{14}{4} = 3 \frac{1}{2}$ apples  11. 3090 grams
12. $\frac{9}{3} = 3$ five minutes = 15 mins. (9:30 + 15 = 9:45 am)  13. $\frac{150}{5} = 30$ pieces

16. Smaller than a right angle  17. Isosceles

18. $(19 + 7 + 14 + 11 + 14 = 65)$ $(65 \div 5 = 13)$  19. $(25 – 8 = 17)$  20. $(64 – 32 = 32)$

21. $(54 – 9 = 45)$ $(45 \div 3 = 15)$  22. $(\$60 \times 5 = 300)$ $(\frac{10}{100} \times \frac{300}{1} = \$30)$ $(300 – 30 = \$270)$
23. $(7 – 3 = 4m$ for each time) $(4 \times 4$ times $= 16m)$ $(30m – 16m = 14m$ remaining)

24. $(\frac{6}{4} – \frac{3}{8} \rightarrow$ Subtract fraction part $(\frac{2}{8} – \frac{5}{8})$ Take one whole from $6$ $(\frac{10}{8} – \frac{5}{8} = \frac{5}{8})$
   
   (Take Whole Numbers $– (5 – 3 = 2)$ Answer $= (2 \frac{5}{8})$

25. $(3.95 \times 2 = \$7.90)$ $(7.90 + 5.50 = \$13.40)$ $(20.00 – 13.40 = \$6.60)$

26. $\frac{7}{1} \div 4 \frac{2}{3} = \frac{7}{1} \times \frac{3}{2} = 1 \frac{1}{2}$  27. $(12.45 – 4.95 = \$7.50$ for 3 pens)
   
   $(7.50 \div 3 = \$2.50$ per pen) $(2$ pens $= 2.50 \times 2 = 5.00)$ $(3$ books $= 4.95 \times 3 = \$14.85)$
   
   $(14.85 + 5.00 = \$19.85)$

28. $(\text{Mon} – \text{Fri} = 30 \times 8 \times 5 = \$1200)$ $(1 \frac{1}{2} \times 30 = \$45.)$ $(45 \times 4 = \$180)$
   
   $(1200 + 180 = \$1380)$ 29. $(\frac{90}{100} \times 1200 = \$1080)$ $(\frac{1}{8} \times 1080 = \$135)$ $(1080 + 135 = \$1115)$

30. $(124 – 64 = 60)$ $(60 \div 3 = 20)$ $(20 \times 2 = 40)$
31. $(300\text{cm} – 24\text{cm} = 276)$ $276 \div 12\text{cm} = 23$ weeks

32. $(10 \times 20 \times 50 = 10000)$ $(2 \times 2 \times 2 = 8)$ $(10000 \div 8 = 1250)$ $(1250 \div 2 = 625)$

33. $(84 \div 4 = 21\text{cm})$
34. $(5.75 \times 5 = 28.75)$ $(28750\text{g} \div 50 = 575\text{g})$

35.
36. (a) Equilateral (b) Scalene
37. (a) Parallel Lines (b) Perpendicular lines

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Number Bought</th>
<th>Percentage of Fruits Bought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guavas</td>
<td>8</td>
<td>20%</td>
</tr>
<tr>
<td>Bananas</td>
<td>16</td>
<td>40%</td>
</tr>
<tr>
<td>Plums</td>
<td>16</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
</tr>
</tbody>
</table>

39. \((24 \times 3 = 72) \text{ (72} \div 4 = 18 \text{ oranges)}\)

40. Keith should not be selected for the team. He scored the lowest number of runs. He may cause the team’s average runs in a game to be low.

41. \((300 \times \$2 = \$600) \left(45\% = \frac{9}{20}\right) \left(\frac{9}{20} + \frac{3}{10} = \frac{15}{20} = \frac{3}{4}\right) \left(\frac{3}{4} \times \frac{300}{1} = 225\right) \left(225 \times 2.50 = \$562.50\right) \left(\text{LOSS} = 600 - 562.5 = \$37.50\right)

42. \(\left(\frac{189}{3} = 63 \text{ boys}\right) \left(63 \times 2 = 126 \text{ girls in school}\right) \left(\frac{126}{9} = 14 \text{ girls in each class}\right)

43. (Small square = \(3 \times 3 = 9\text{cm}^2\)) (Rectangle = \(6 \times 4.5 = 27\text{cm}^2\)) (Difference = \(27 - 9 = 18\text{cm}^2\))

44.

<table>
<thead>
<tr>
<th>Name of Shape</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallelogram</td>
<td>Two pairs of parallel lines, no right angles</td>
</tr>
<tr>
<td>Square</td>
<td>Four equal sides, four right angles</td>
</tr>
<tr>
<td>Trapezium</td>
<td>One pair of parallel lines, no right angles</td>
</tr>
<tr>
<td>Rhombus</td>
<td>Four equal sides, no right angles</td>
</tr>
</tbody>
</table>

45. \(102 + 85 + 87 + 114 + 72 = 460) \left(\frac{460}{5} = 92\right) \left(102 + 85 + 87 + 114 = 388\right) \left(\frac{388}{4} = 97\right) \left(97 - 92 = 5\right)
1. 4  
2. 48  
3. \(7^2 + 1 = 50\) \((5^2 = 25)\) \((25 \times 2 = 50)\) \(\square = 2\)

4. \(\frac{2}{3}\)  
5. \((9.00 - 2.73 = 6.27)\)  
6. 375  
7. 3.1 1.3 0.31 0.13

8. \(16 \times 9 = 144\)  
9. 132  
10. \(\frac{12}{8} = 1\frac{4}{8} = 1\frac{1}{2}\) cakes  

11. 

12. \((2000\text{g} - 1350\text{g} = 650\text{g})\)  
13. \(6:50 - 6:15 = 35\text{minutes}\)  
14. \(\frac{3000}{400} = 7\frac{1}{2}\)

15. Pyramid  
16.  
17. 5-quarter turns

18. \((18 + 87 + 61 + 75 + 64 + 85) \div 6 = \frac{390}{6} = 65\)  
19. P.Cars

20. \((19 - 13 = 6\text{ more pencils})\)  
21. \(\frac{1}{2} + \frac{3}{4} = \frac{5}{4}\)  
22. \((\frac{5}{4} \div 2 = \frac{5}{4} \times \frac{1}{2} = \frac{5}{8})\)

23. \((16 \times 18 = 288)\) \((396 - 288 = 108)\) \((108 \div 18 = 6\text{ rows})\)

24. \((6.30 \div 7 = \$0.90 = \text{one pen})\) \((1\frac{1}{2} \text{ dozen} = 18 \times 0.9 = \$16.20)\)

25. \((468 - (25 + 11) = 432)\) \((\frac{432}{3} = 144\text{ female students})\) \((144 + 25 = 169\text{ female})\)

26. \((52 - 18 = 34)\) Ans: Any number combination to make 34 except 34 + 0.

eg: 20 + 14

27. \(\frac{30}{100} x \frac{450}{1} = \$135\) \((450 - 135 = \$315)\)

28. \((25 \times 5 = \$125)\) \((375 - 125 = \$250\text{ balance})\) \((250 \div 25 = 10\text{ weeks})\)

29. David’s answer is smaller. – David has to share the number into more parts which will make each part smaller.

30. \(\frac{8000}{1} x \frac{7}{100} x \frac{2}{1} = \$1120\) \((8000 + 1120 = \$9120)\)

31. \((3\text{cm} \times 3\text{cm} = 9\text{cm}^2)\) \((11\text{ squares inside shape})\) \((11 \times 9 = 99\text{cm}^2)\)

32. \((8:00\text{am to 1:35pm} = 5\text{hrs 35mins})\) \((6\text{hours for parking})\) \((6 \times 6 = \$36)\)

33. Missing sides \((12 - 4 = 8\text{cm})\) \((15 - 9 = 6\text{cm})\)

Perimeter = \((15 + 12 + 6 + 8 + 9 + 4 = 54\text{cm})\)

34. \((620\text{cm} - 20 = 600\text{cm})\) \((25 + 15 = 40)\) \((600 \div 40 = 15\text{ bags each})\)

\((\text{Total} = 15 \times 2 = 30\text{ bags})\)

35. Any quadrilateral(four sided figure)
36. | NAME OF SHAPE | PROPERTIES |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhombus</td>
<td>No right angles, four equal sides.</td>
</tr>
<tr>
<td>Trapezium</td>
<td>Two right angles, one pair of parallel lines.</td>
</tr>
<tr>
<td>Square</td>
<td>Four right angles, four equal sides.</td>
</tr>
</tbody>
</table>

37. 4 + 7 + 5 = 16 children

38. 4 + 7 + 5 = 16 children

39. (52 – 28 = 24) (24 ÷ 3 = 8 Blue) (8 x 2 = 16-Yellow)
   Blue = 😊😊😊😊 😊😊😊😊
   Yellow = 😊😊😊😊😊😊😊😊😊😊

40. Basketball – The least number of children play this sport and it is most likely that the least equipment will be needed and the least amount of damage will be done to equipment.

41. \( \left( \frac{3}{4} \times \frac{2}{5} = \frac{3}{10} \text{ red remaining} \right) \left( \frac{2}{3} \times \frac{3}{5} = \frac{2}{5} \text{ green remaining} \right) \left( \frac{3}{10} + \frac{2}{5} = \frac{7}{10} \right) \)
   \( \frac{7}{10} = 133 \text{ marbles (Whole} = \frac{133}{1} x \frac{10}{7} = 190) \)

42. (35 x 5 = $175) (2011 – 175 = $1836) (1836 ÷ 9 = 204) (204 x 2 = 408 CD’s) (408 + 35 = 443 CD’s)

43. (100x40x30) ÷ (10x10x10) = 120 cubes (100x40x30) ÷ (20x20x20) = 15 cubes
   Difference = 120 – 15 = 105 cubes more in one box.

44. Line of symmetry
45. (a) 125 cubic metres of gravel.
MATHEMATICS TEST NINE ANSWERS

1. \(\frac{4}{10}\) or 4 tenths
2. 300 076
3. \(\frac{14}{3}\)
4. \(\frac{32}{100} = \frac{8}{25}\)
5. \(\frac{18}{30} \times \frac{1}{1} = 60\%\)
6. \(8^2 - 35 = 64 - 35 = 29\)
7. \$8.95 + \$2.30 = \$11.25
8. \(\frac{20}{100} \times \frac{245}{1} = \$49\)
9. \(\frac{2}{8} = \frac{1}{4}\)

10. Ben kept 40\% = \(\frac{40}{100} \times \frac{20}{1} = 8\) marbles

12. kilometre (km)
13. \(\frac{450}{10} = 45\) pieces

14. \(\frac{56}{4} = 14cm\)
15. Cone
16. 17. <
18. 63 toys

19. Guppy
20. (45 – 15 = 30 children)

21. \(\frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}\)

22. (3875 – 287 = 3588 ducks) (3875 + 3588 = 7463)

23. (17 + 34 = 51m between poles) (18 poles equal 17 spaces = 17 \times 51 = 867m of cable)

24. \(\frac{32}{1} \div \frac{2}{3} = \frac{32}{1} \times \frac{3}{2} = 48\) pieces

25. \(\frac{198}{3}\) The 23 was distributed into 20 and 3. 198 – 23 times can be 198 – 20 times added to 198 – 3 times

26. (24 \times 4 = 96 seats) (246 – 96 = 150) (150 ÷ 6 = 25 tables)

27. \(\frac{1}{8} \times \frac{720}{1} = \$90\) per week (90 ÷ 6 = \$15 each day. 28. \(\frac{612}{1} \times \frac{5}{2} = 1530\) members

29. VENDOR B – Find the cost of one item for each vendor by dividing the number of oranges by cost of the heap.

30. \(\frac{80}{100} \times \frac{400}{1} = 320\) (320 ÷ 40 = \$12 800)

31.

32. (1m = 100cm)

\(V = 100 \times 50 \times 20 = 100000cm^3\)

\(\frac{3}{4} \times \frac{100000}{1} = 75000\)

(1 litre = 1000cm\(^3\))

\(\frac{75000}{1000} = 75\) litres

33. Writing = 65mins Math = 45mins – Difference (65 – 45 = 20mins)

34. 8:15 to 1:30 = 5hrs 15mins. (6hrs per day \times \$5 = \$30 per day) (30 \times 5 days = \$150)

35.
36. **SOLIDS** | **PROPERTIES**
---|---
Cube | Six square faces, eight vertices
Cylinder | Two flat faces, one circular surface
Square-Based Pyramid | Five vertices, four triangular faces

37. **ANGLE** | **LETTERS**
---|---
Greater than a right angle | A, B, D
Less than a right angle | C, E

38. ![Graph](image)

39. $240 \div 20 = 12$
40. $(75 \times 5 = 375) (375 + 87 = 462) (462 \div 6 = 77)$
41. $20\% = \frac{1}{5}$ sold. \((\frac{4}{5} \text{ remainder}) \left(\frac{1}{4} \times \frac{4}{5} = \frac{1}{5}\right) \left(\frac{3}{5} \text{ remainder}\right) \left(\frac{3}{5} = 60\right) \frac{60}{1} \times \frac{5}{3} = 100 \text{ oranges in total}\)
42. \(6000 \times \frac{4}{100} \times \frac{2}{1} = 480\) \((6000 + 480 = 6480) (2\text{ yrs} = 24\text{ mths}) \frac{6480}{24} = $270\)
43. (Route A = 2500 + 2500 + 3045 = 8045m) (Route B = 3070 + 1750 + 3250 = 8070m) **Route B is longer.** \((8070 - 8045 = 25\text{m})\)
44. (a) Container A (b) The cuboid shape will make it easier to stack more containers on each other without toppling over. It will be easier to secure the containers when strapped to the truck.
45. (a) Sports Day (b) Most children will come out to support a sports day (parents and past pupils may also come to increase the number of people present.) (The school can sell more items to more people on the sports day)
1. Seven hundred and five thousand and fifty-six.

2. 0.05

3. 7728

4. 50 000

5. 15 \times 30 = 450

6. 14, 1.4, 0.41, 0.14

7. \( \frac{5}{3} \)

8. 150 \times 12 = 1800

9. 9

10. \[ \frac{1}{2} \text{ and } \frac{1}{3} \]

11. \( \frac{25}{28} \to \frac{25}{28} \)

12. 6cm

13. $60.00 - $53.75 = $6.25

14. cylinder

15. 4 lines

16. 20 – 9 = 12

17. D

18. 23

19. 1

20. 1

21. \( \frac{7}{8} + \frac{3}{2} \) (Add fraction part \( \frac{7}{8} + \frac{1}{2} = \frac{11}{8} = 1\frac{3}{8} \)) (Add whole = \( 8\frac{3}{8} \))

22. (532 – 86 = 446) (446 + 532 = 978)

23. \( \frac{8}{32} = \frac{1}{4} = 0.25 \)

24. (60 – 12 = $48) (48 ÷ 2 = $24) \( \frac{24}{60} \times \frac{100}{1} = 40\% \)

25. (16 \times 32 = 512) (512 - 352 = 160) (160 ÷ 16 = 10 shelves)

26. 2.37

27. Remainder = \( \frac{3}{2} \times \frac{4200}{1} = $6300 \) \( \left( 6300 = \frac{7}{10} \right) \) (Whole = \( \frac{10}{7} \times \frac{6300}{1} = $9000 \))

28. 1 pencil = \( \frac{15}{12} = $1.25 \) (7 pencils = 1.25 \times 7 = $8.75)

29. \( \left( \frac{25}{100} \times \frac{240}{1} = $60 \right) (240 + 60 = 300)(300 + 240 = $540) \)

30. By rounding each number given to the nearest 1000, it can be determined that Bill worked for approximately $7000 while Jane worked for approximately $6000. Therefore, Bill worked for more money.

31. \( \frac{1}{10} \text{kg} = 2 \text{ oranges} \)

32. A small square = 3cm \times 3cm = 9cm^2

33. Missing sides: (9 + 6 = 15) and (8 – 3 = 5)

Perimeter = 15 + 8 + 6 + 5 + 9 + 3 = 46cm
34. 3 adults = 250 x 3 = $750 per night
    2 children = 125 x 2 = $250 per night
    1 night for the family = $750 + $250 = $1000
    2 nights for the family = 1000 x 2 = $2000

35.

<table>
<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>Cube</td>
<td>6</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Cylinder</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Triangular-based prism</td>
<td>5</td>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

36. Shape C

37. Triangle B – All the sides are equal.

38. (16 + 13 = 29) 63 – 29 = 34  (34 ÷ 2 = 17) Tally = (++++)  (++++)  ++++  11

39. (2500 – (592 + 587 + 345 + 178 + 63 + 127 + 63 + 47) = 498) (498 ÷ 3 = 166)
    Sold = 166 x 2 = 332
    Dumped = 166

40. Robots – most people like robots – robots are selling fastest among the toys.

41. \( \left( \frac{10}{100} \times \frac{1200}{1} = \$120 \right) \)
    \( (1200 - 120 = \$1080) \left( 12 \frac{1}{2} \% = \frac{1}{8} \right) \)
    \( \left( \frac{1}{8} \times \frac{1080}{1} = \$135 \right) \)

    Customer would pay (1080 + 135 = $1215.)

42. (8623 – 6428 = 2195) (8264 - 6843 = 1421) (1421 + 2195 = 3616)

43. \((1 \text{ litre} = 1000ml) \left( \frac{7}{5} \times \frac{1000}{1} = 400 \right) \)
    \( (5ml \times 4 = 20ml \text{ per day}) \left( \frac{400}{20} = 20 \text{ days} \right) \)

44.

![Diagram of a geometric shape with labeled points A, B, C, and D.]

45. The most money should be spent on shirt size 17. Most people in the club are wearing size 17. The most needed shirt size will be size 17.
1. 1025 016  2. 42  3. 102  4. $\frac{8}{12} = \frac{2}{3} = \frac{66}{3}%$  5. 1.1  6. 9000
7. 25678  8. $\frac{4}{10} = \frac{2}{5}$  9. $5 \frac{2}{9}$  10. 128 x 6 = 768 pages  11. cm  12. 27cm³
13. 30 mins  14. 80 x 6 = 480g  15. AB  16. Square-Based Pyramid  17. 5
18. 3 x 8 = 24  19. 108 cm

20. 21.

<table>
<thead>
<tr>
<th>Common Fraction</th>
<th>Decimal Fraction</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{11}{50}$</td>
<td></td>
<td>(a) 22%</td>
</tr>
<tr>
<td>(b) 0.75</td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td>$\frac{9}{25}$</td>
<td></td>
<td>0.36</td>
</tr>
</tbody>
</table>

22. $25 \times 13 = 325$ boxes  23. $\frac{2}{3}, \frac{11}{12}, \frac{5}{12}$
24. 1635 x 5 = 8175 bricks needed (8175 ÷ 200 = 40 R 175)
   Ans: The builder has to buy 41 pallets. He will not be able to get an exact number of bricks, therefore he has to buy a full pallet and have some bricks remaining instead of buying one less pallet and not be able to complete one of the houses.
25. $\frac{24}{40} \times \frac{100}{1} = 60%$  26. $\frac{3}{2} \times \frac{60}{1} = $30 ($30 = \frac{3}{2}$) (Zack’s Total = $\frac{30}{1} \times \frac{5}{2} = $75)
27. $\frac{30}{100} \times \frac{4000}{1} = 1200$ children ($\frac{3}{5} = \text{girls}$) ($\frac{3}{5} \times \frac{1200}{1} = 720$ girls)
28. $\frac{2}{5} \times \frac{1500}{1} = 600$) ($\frac{1}{10} \times \frac{1500}{1} = 150$) (1500 – (600 + 150) = 750 blue marbles)
29. 324 114  31. (250 x 24 = 6000ml) (6000 ÷ 1000 = 6 litres)  32. $\frac{90}{3} = 30$ (30 x 5 = 150 mins)
33. Route A = (1500 + 400 + 500 = 2400m) Route B = (900 + 300 + 650 = 1850m)
   Ans: Hazel should take Route B – Route B is shorter. She would get to and from the shop faster than if she uses Route A. (Using Route B will save her time)
34. (1500 ÷ 250 = 6) $6^{th}$ container = Container F - Cost = 6 x 8 = $48

35. East  36.

37. (a)

<table>
<thead>
<tr>
<th>SOLID</th>
<th>NUMBER OF STRAWS USED TO MAKE SOLID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuboid</td>
<td>12</td>
</tr>
<tr>
<td>Triangular-Based Prism</td>
<td>9</td>
</tr>
</tbody>
</table>

(b) Cuboid

38. (80 x 6 = 480) (480 – (90 + 74 + 67 + 95) = 154) (154 – 4 = 150) (150 ÷ 2 = 75)
   Two numbers are: 75 and 79
39. Total = (85 + 72 + 75 + 43 + 65 = 340) Mean = 340 ÷ 5 = 81 = Grade A

40. (10 x 8 = $80 per weekday) (Mon. Wed. Thurs = 13days x 80 = $1040)(Sat. = 15 x 8 = $120) (120 x 5 = 600) Total = 1040 + 600 = $1640

41. \( \left( \frac{25}{100} \times \frac{3200}{1} = \$800 \right) (3200 - 800 = \$2400) \left( \frac{1}{8} \times \frac{2400}{1} = \$300 \right) (2400 + 300 = \$2700) \)

42. A of Garden = 700 x 700 = 490000\( \text{cm}^2 \) (A of entire space = 1100 x 1100 = 1210000\( \text{cm}^2 \))

\( \text{(A of walk path = 1210000} - 490000 = 720000\text{cm}^2 \) (Tiles needed = \( \frac{720000}{24 \times 24} = 1250 \text{ tiles} \))

(1250 x 10 = $12500)

43. (a) Mathematics (55\%)  \hspace{1cm} (b) (55 + 71 + 44 + 60 + 70 = 300)(\frac{300}{450} \times \frac{100}{1} = 66 \frac{2}{3} \%) 

<table>
<thead>
<tr>
<th>Plane Shapes</th>
<th>Number of sides</th>
<th>Number of equal sides</th>
<th>Number of parallel lines</th>
<th>Number of right angles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallelogram</td>
<td>4</td>
<td>2 pairs</td>
<td>2 pairs</td>
<td>0</td>
</tr>
<tr>
<td><strong>Equilateral Triangle</strong></td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Trapezium</td>
<td>4</td>
<td>0</td>
<td><strong>One pair</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Square</strong></td>
<td>4</td>
<td>4</td>
<td>2 pairs</td>
<td>4</td>
</tr>
</tbody>
</table>

44. (a) Mathematics (55\%)  \hspace{1cm} (b) (55 + 71 + 44 + 60 + 70 = 300)(\frac{300}{450} \times \frac{100}{1} = 66 \frac{2}{3} \%)
# Test Twelve - Answers

1. 50 407  
2. \( \frac{19}{5} \)  
3. \( \frac{30}{1} \times \frac{5}{1} = 150 \)  
4. 4.4  
5. \( \frac{20}{100} \times \frac{180}{1} = 36 \)

6. 9.00  
7. 45 ÷ 100 = 0.45  
8. \( \frac{9405}{6} = 1567 \) Remainder = 3  
9. 49 - 6 = 43

-3.27  
5.73  
10. 316 + 127 = 443  
11. 1:50  
12. Watermelon

13. \( \frac{6000}{500} = 12 \)  
14. 3000 + 55 = 3055m  
15. Isosceles Triangle

16. Square based pyramid  
17. B  
18. (56 + 23 + 29 = 108) \( \frac{108}{3} = 36 \)

19. (18 + 12 + 38 = 68) (100 - 68 = 32)  
20. (15 - 8 = 7)  
21. 40% 0.5 \( \frac{3}{5} \times \frac{7}{10} \)

22. (60 - 16 = 44) (44 ÷ 2 = 21) (21 - 16 = 5)  
23. (51 - 15 = 36) (36 ÷ 3 = 12) N=12

24. (25 x 8 = $200 per day) (200 x 5 = $1000 per week) \( \frac{10}{100} \times \frac{1000}{1} = 100 \)

(1000 - 100 = $900)

25. \( \frac{12000}{1} \times \frac{5}{100} \times \frac{4}{1} = 2400 \) (12000 + 2400 = $14400)

26. 2-Yellow, 2-Red and 3-Blue  
27. \( \left( 12 \frac{1}{2} \% = \frac{1}{8} \right) \left( \frac{1}{8} \times \frac{320}{1} = $40 \right) \) (320 + 40 = $360)

28. \( \left( \frac{1}{4} + \frac{5}{12} = \frac{8}{12} = \frac{2}{3} \right) \left( \frac{3}{3} - \frac{2}{3} = \frac{1}{3} \right) \left( \frac{1}{3} \times \frac{600}{1} = $200 \right) \)

29. \( \left( 3 \frac{1}{2} \times \frac{3}{1} = \frac{7}{2} \times \frac{3}{1} = \frac{21}{2} = 10 \frac{1}{2} km on Tuesday \right) \left( 10 \frac{1}{2} + 3 \frac{1}{2} = 14 km \right) \)

30. (148 x 15 = 2220)

31. He/She can first find the entire area of the backyard by multiplying 12m by 8m then find the area of the pool by multiplying 8m by 4m. The area of the walk path can be found by subtracting the area of the pool from the area of the backyard.

32

33. 9:15am - 7:45am = 1hr 30mins. (8:30 - 1:30 = 7:00am)

34. Volume = 9cm x 9cm x 9cm = 729cm³  
35. (3700 + 650 + 55 = 4405g)

36.
37. (5 \times 12) + (13 \times 2) + (14 \times 1) \div 8 = 100 \div 8 = 12.5

39. Second Year

Second Year received the most toys. This class may have more students than the other classes.

41. \(\frac{30}{100} \times \frac{180}{1} = 54\) \(\frac{2}{5} \times \frac{180}{1} = 72\) \(180 - (72 + 54) = 54\) \(\frac{54}{2} = 27\)

42. \((9836 + 3689 = 13525)(\frac{13525}{5} = 2705)\)

43. \((30 \times 20 \times 10 = 6000cm^3)\) \(\left(\frac{3}{4} \times \frac{6000}{1} = 4500cm^3\right)\) \((1 \text{ litre} = 1000cm^3)\)

\(4500 \div 1000 = 4.5 \text{ litres}\)

44. (a) \(\text{(b) The pattern is formed by using the solid shape then the flat shapes used to form the solid.}\)

45. Each day Patsy’s increase in her savings increased using multiples of ‘5’ starting on Tuesday with 5 and not skipping any multiple. (5, 10, 15, 20, 25)
1. 7592  
2. 204  
3. 340.26  
4. 36  
5. $\frac{5}{8}$  
6. $7\frac{5}{6}$  
7. $\frac{7}{8} \times \frac{480}{1} = 420$ tickets  
8. $(84 - 24) \div 5 = 12$  
9. 7 coins  
10. VENDOR A  
11. CONTAINER A  
12. $\sqrt{144} = 12cm$  
13. $35 \times 4 = 140cm$  
14. $\frac{270}{60} = 4\frac{1}{2}$ hours  
15. cuboid  
16. 0  
17. One Whole turn  
18. 0  
19. 28  

20.  
21. Whole = $\frac{80}{1} \times \frac{5}{2} = 200 \left(\frac{3}{4} \times \frac{200}{1} = 150\right)$  
22. $\frac{9}{12}$ and $\frac{18}{24}$  
23. Jill applied the distributive law. She knows that 68 x 55 means the same as  
   $(68 \times 45) + (68 \times 10).$ Therefore, the difference in the answer is 68 ten times.  
24. $(20 \times 16) + 12 = 332$ sweets. $(\frac{332}{12} = 27 R 8)$ Remainder would be 8 sweets  
25. $4\frac{1}{5} \div \frac{3}{5} = \frac{21}{5} \times \frac{5}{3} = 7$  
26. $\frac{1}{4} \times \frac{340}{1} = $85 $(340 - 85 = $255)$  
27. $\frac{45}{3} = 15$ games won (11 games drawn) (Loss = 30 - (15 + 11) = 4 games)  
28. $\frac{9000}{1} \times \frac{4}{100} \times \frac{3}{1} = 1080 \left(9000 + 1080 = 10080\right)\left(\frac{3}{4} \times \frac{10080}{1} = $7560\right)$  
29. $(2 + 4 + 8 + 1 = 15)$ $(75 \div 15 = 5$ of each card)  
30. $\frac{7}{8} \times \frac{160}{1} = 60)(0.25 \times 160 = 40)(Apples = 160 - (60 + 40) = 60 apples)$  
31. $7200 \div (30 \times 12) = \frac{7200}{360} = 20cm$  
32. $(20 \times 12 = 240m^2)=$ Area of walk path and swimming pool $(16 \times 8 = 128m^2) = A$ of pool $(240 - 128 = 112m^2)$  
33. Spirit  
34. $(1000 \div 4 = 250)$ $(250 \div 10 = 25)$  
35.  
36. 

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<p>| | | | |</p>
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<tbody>
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</tbody>
</table>
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12cm

12cm
### 37.

<table>
<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>Cube</td>
<td>6</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Triangular-Based Prism</td>
<td>5</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Cylinder</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

### 38.

$1500 + 2250 + 1250 = $ 5000

### 39.

Darren ate the least.

### 40.

Tommy – Tommy has the lowest score. By removing the lowest score, the total will remain higher which will result in a higher mean when dividing the total by the number of children.

Mean of four boys = \((84 + 75 + 90 + 71) \div 4 = 320 \div 4 = 80\)

### 41.

\((12 \text{ spaces} - \frac{96}{12} = 8 \text{ pipes between two posts})\)

\((8 \times 6 = 48 \text{m} – \text{distance bet. two posts}.)(1^{\text{st}} \text{ and } 5^{\text{th}} \text{ post} = 4 \text{ spaces})\)

\((48 \times 4 = 192 \text{m})\)

\((\frac{1}{3} \times \frac{8400}{1} = 2800)\) \((8400 - 2800 = $5600)\) \((\frac{1}{8} \times \frac{5600}{1} = 700)\) \((5600 + 700 = $6300)\)

\((8150 - 6300 = $1850 \text{ PROFIT})\)

### 42.

\((\frac{900 \times 900}{30 \times 15} = 1800 \text{ tiles})\) \((1800 \times $12 = $21600 \text{ for tiles})\) \((21600 + 1250 = $22850)\)

### 43.

<table>
<thead>
<tr>
<th>Plane Shape/Solid</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square</td>
<td>4 right angles, 4 equal sides</td>
</tr>
<tr>
<td>Cuboid</td>
<td>12 edges, six faces that are not all equal, eight vertices</td>
</tr>
<tr>
<td>Parallelogram</td>
<td>Two pairs of parallel lines, no right angles, opposite sides equal in length. All sides are not equal.</td>
</tr>
<tr>
<td>Isosceles Triangle</td>
<td>Three sides, two of which are equal.</td>
</tr>
</tbody>
</table>

### 44.

(a) \(240 \div 3 = 80\)  
(b) \(85 \times 3 = 255\)  
\((255 - 240 = 15 \text{ more marks})\)
1. 6000  2. 49  3. 1008  4. 135  5. \( \frac{11}{3} \)  6. \( 4 \frac{2}{5} \)  7. first row second row
8. 23  9. $121.70  10. 6.2  11. 343  12. 6.5cm  13. June 21


21. \((350 - 140 = 210) \left( \frac{210}{350} \times \frac{100}{1} \right) = 60\% \)  22. \((397 \div 24 = 16 \text{ R } 13 \text{ Reasoning } - 17^{th} \text{ case})

23. \((Keva= \frac{45}{1} \times \frac{8}{3} = 120) \text{ Total } = (120 + 45 = 165)

24. Kevin’s drawing is correct. He made equivalent fractions of twentieths. \( \frac{3}{10} \) was changed into \( \frac{6}{20} \) and \( \frac{2}{5} \) was changed into \( \frac{8}{20} \).

25. | Item       | Quantity | Total Cost          |
    |------------|----------|---------------------|
    | Bag        | \( 190 \div 95 = 2 \) | \( 243 - (45+8) = 190 \) |
    | Glue       | \( 45 \div 15 = 3 \)  | $45.00              |
    | Ruler      | 2        | $8.00               |
    | Total      |          | $243.00             |

26. \( \frac{16}{3} \div \frac{2}{3} = \frac{16}{1} \times \frac{3}{2} = 24 \text{ bottles} \)

27. Tom can make equivalent fractions and change \( \frac{2}{3} \) to \( \frac{6}{9} \) then compare the 6 ninths with the 5 ninths and see that 2 thirds is the larger fraction.

Diagram -

5 ninths – five parts shaded
2 thirds shaded which is equal to 6 ninths. 2 thirds is greater

28. Year 1 = 14  Year 2 = 18  (total = 14 + 18 + 23 + 29 + 36 + 44 = 164)

29. \((100\% - 60 \% = 40\%) \left( \frac{35}{100} \times \frac{40}{1} \right) = 14\% \)  \((60\% + 14\% = 74\%)\)

30. \((15 \times 4 = $60) \)  \((15\text{plums} \div 3 = 5\text{groups}) (15 \times 5 = $75) \)  (Profit = 75 – 60 = $15)

31. \((15\text{cm} = 150\text{mm}) \)  \((150\text{mm} – 14\text{mm} = 136\text{mm})\)  32. (Each square = \( 4\text{cm}^2 \)) \((16 \times 4 = 64\text{cm}^2)\)

33. \((\text{Area of floor} = (10 \times 4) + (4 \times 6) = 64\text{m}^2 = 640000\text{cm}^2) \)  \( \text{Tiles needed} = \frac{640000}{1600} = 400 \text{ tiles} \)

34. \((9 \times 9 \times 9 = 729\text{cm}^3 \text{needed to fill the box}) \)  \((\text{Small cube} = (3 \times 3 \times 3 = 27\text{cm}^3)) \)  \((27 \times 10 = 270\text{cm}^3) \)  \((\text{Empty space} = 729 – 270 = 459\text{cm}^3)\)
35. (a) trapezium  (b) 

36. 

37. 

<table>
<thead>
<tr>
<th>TURN</th>
<th>BETTY</th>
<th>CANDICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>START</td>
<td>North</td>
<td>North</td>
</tr>
<tr>
<td>1</td>
<td>South</td>
<td>West</td>
</tr>
<tr>
<td>2</td>
<td>North</td>
<td>South</td>
</tr>
<tr>
<td>3</td>
<td>South</td>
<td>East</td>
</tr>
<tr>
<td>4</td>
<td>North</td>
<td>North</td>
</tr>
</tbody>
</table>

38. \( (55 + 40 + 37 + 62 + 71) \div 5 = 53 \) (53 + 9 = 62) = Jerry

39. \( (58 \times 5 = 290) \) (60 x 4 = 240) (290 – 240 = 50 runs)

40. Store B – This store has the highest sales. It is able to attract more people to buy toys and will have a greater chance of selling more of Mr. Mike’s toy cars.

41. \( \frac{60}{100} \times \frac{350}{1} = 210 \ \text{large} \) (210 x $3 = $630) (350 – 210 = 140 small) \( \frac{80}{100} \times \frac{140}{1} = 112 \)

(112 x 2 = $224) (Total 630 + 224 = $854) (Profit = 854 – 700 = $154 PROFIT)

42. (12 x 2 = $24) (144 – 24 = $120) (120 ÷ (6+2) = 15 pencils/15 sharpeners)

Total pencils = 15 + 12 = 27 pencils

43. (25 cm x 4 = 100 cm = 1 m for four post) (16 m – 1 m = 15 m for three spaces)

\( \frac{15}{3} = 5 \text{ m = 1 space} \) (2nd to 10th post means 9 post = 25 cm x 9 = 225 cm = 2.25 m) + (8 spaces 8 x 5 = 40 m) = 2.25 m + 40 m = 42.25 m

44. \( (200 \times 50 \times 30 = 300000 \text{cm}^3) \) \( \frac{80}{100} \times \frac{300000}{1} = 240000 \)

\( \frac{5}{2} \times \frac{240000}{1} = 600000 \text{cm}^3 \)

\( 600000 \div 1000 = 600 \text{ litres} \)

45. \( (420 + 227 + 364) \div 3 = 337 \) (Brenda gives 420 – 337 = $83) (Dennis gives 364 – 337 = $27)