BROAD HORIZON
TUITION CENTRE

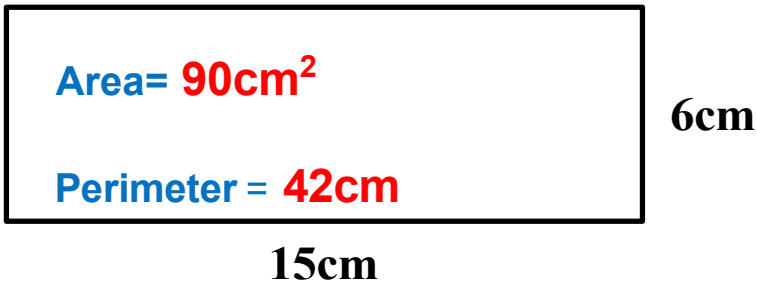
11+ Tuition – Year 5

Week 11 - Online

ANSWERS

Date:

1. Workout the area and perimeter of this shape **(2 marks)**



2. Workout $\frac{3}{7}$ of 161

69

3. Workout $\frac{4}{9}$ of 315

140

4. Workout $\frac{3}{4}$ of **248**

180

5. How much more than -32 is 12 ?

44

6. What is the median of 8, 3, 6 and 3

4.5

7. 0.75 x 1000 =

750

8. What is 78 x 9 =

702

9. Round 3.675 to the nearest 2 decimal places

3.62

Starter Task - Quick Revision

1. Workout $\frac{2}{5}$ of 285

114

2. Workout $\frac{4}{7}$ of 350

200

3. Workout $\frac{1}{4}$ of 456

114

4. What is 5 subtract 45?

-40

5. What is 10% of 120

12

6. What is 5% of 120?

6

7. What is 15% of 120?

18

8. What is 25% of 80?

20

9. What is 45% of 250?

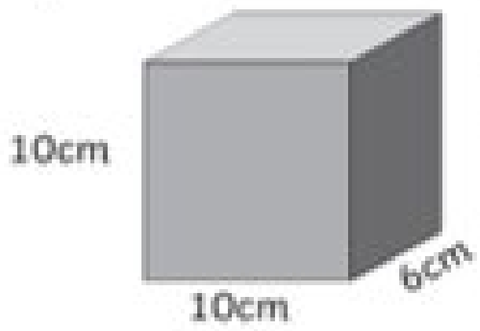
112.5

10. What is 35% of 75?

26.25

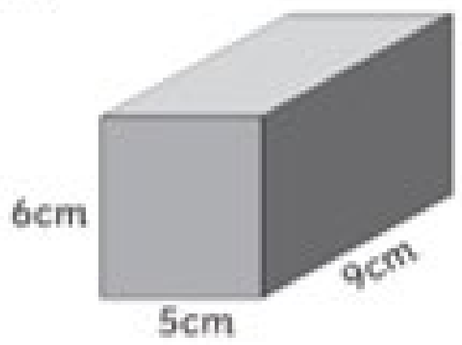
Calculate the volume of the following cuboids.

1.



Volume =

2.

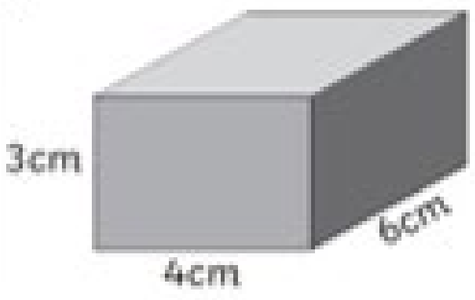


Volume =

3.

Volume =

4.

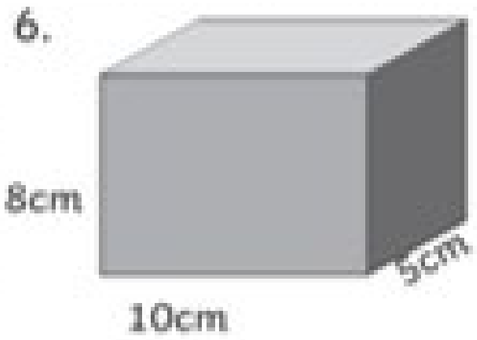


Volume =

5.

Volume =

6.

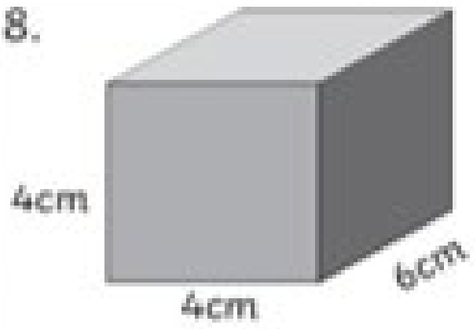


Volume =

7.

Volume =

8.



Volume =

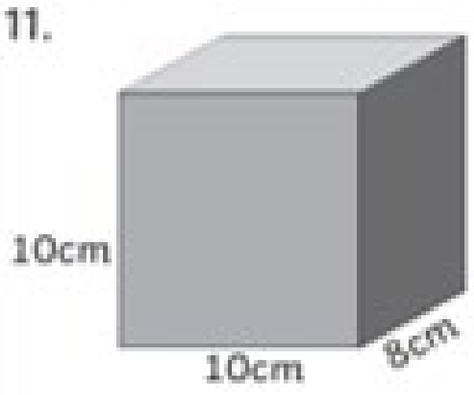
9.

Volume =

10.

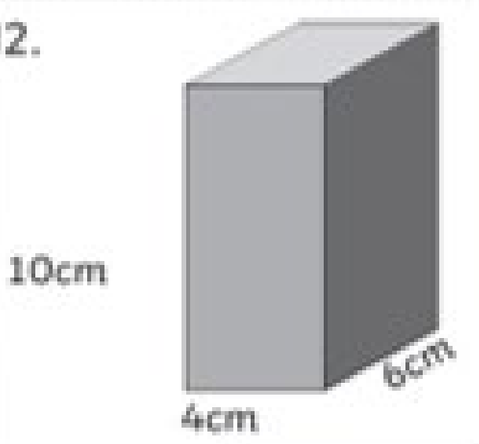
Volume =

11.



Volume =

12.



Volume =

1. 600 cm^3
2. 270 cm^3
3. 84 cm^3
4. 72 cm^3
5. 32 cm^3
6. 400 cm^3
7. 192 cm^3
8. 96 cm^3
9. 252 cm^3
10. 96 cm^3
11. 800 cm^3
12. 240 cm^3

Fraction Addition – Answers

1) $\frac{1}{12} + \frac{2}{36} = \frac{5}{36}$

2) $\frac{18}{58} + \frac{11}{29} = \frac{20}{29}$

3) $\frac{8}{20} + \frac{4}{12} = \frac{11}{15}$

4) $\frac{3}{7} + \frac{12}{14} = \frac{9}{7}$
$(= 1\frac{2}{7})$

5) $\frac{7}{44} + \frac{3}{4} = \frac{10}{11}$

6) $\frac{1}{3} + \frac{3}{5} = \frac{14}{15}$

7) $\frac{16}{45} + \frac{10}{15} = \frac{46}{45}$
$(= 1\frac{1}{45})$

8) $\frac{2}{29} + \frac{2}{58} = \frac{3}{29}$

9) $\frac{8}{9} + \frac{5}{27} = \frac{29}{27}$
$(= 1\frac{2}{27})$

10) $\frac{1}{6} + \frac{3}{18} = \frac{1}{3}$

Name: _____ Score: _____

Teacher: _____ Date: _____

Subtracting Fractions

1) $\frac{5}{8} - \frac{\mathbf{12}}{40} = \frac{25}{40} - \frac{\mathbf{12}}{40} = \frac{13}{40}$

2) $\frac{3}{11} - \frac{6}{55} = \frac{15}{\mathbf{55}} - \frac{6}{\mathbf{55}} = \frac{9}{55}$

3) $\frac{1}{3} - \frac{2}{10} = \frac{10}{30} - \frac{6}{30} = \frac{4}{30} = \frac{2}{15}$

4) $\frac{3}{4} - \frac{5}{16} = \frac{\mathbf{12}}{16} - \frac{5}{16} = \frac{7}{16}$

5) $\frac{11}{14} - \frac{3}{4} = \frac{22}{28} - \frac{\mathbf{21}}{28} = \frac{1}{28}$

6) $\frac{8}{14} - \frac{3}{42} = \frac{24}{\mathbf{42}} - \frac{3}{\mathbf{42}} = \frac{\mathbf{21}}{42} = \frac{1}{2}$

7) $\frac{5}{6} - \frac{6}{8} = \frac{\mathbf{20}}{\mathbf{24}} - \frac{18}{24} = \frac{2}{\mathbf{24}} = \frac{1}{\mathbf{12}}$

8) $\frac{10}{13} - \frac{13}{\mathbf{26}} = \frac{\mathbf{20}}{\mathbf{26}} - \frac{13}{\mathbf{26}} = \frac{7}{\mathbf{26}}$

9) $\frac{7}{9} - \frac{1}{5} = \frac{35}{45} - \frac{9}{45} = \frac{\mathbf{26}}{45}$

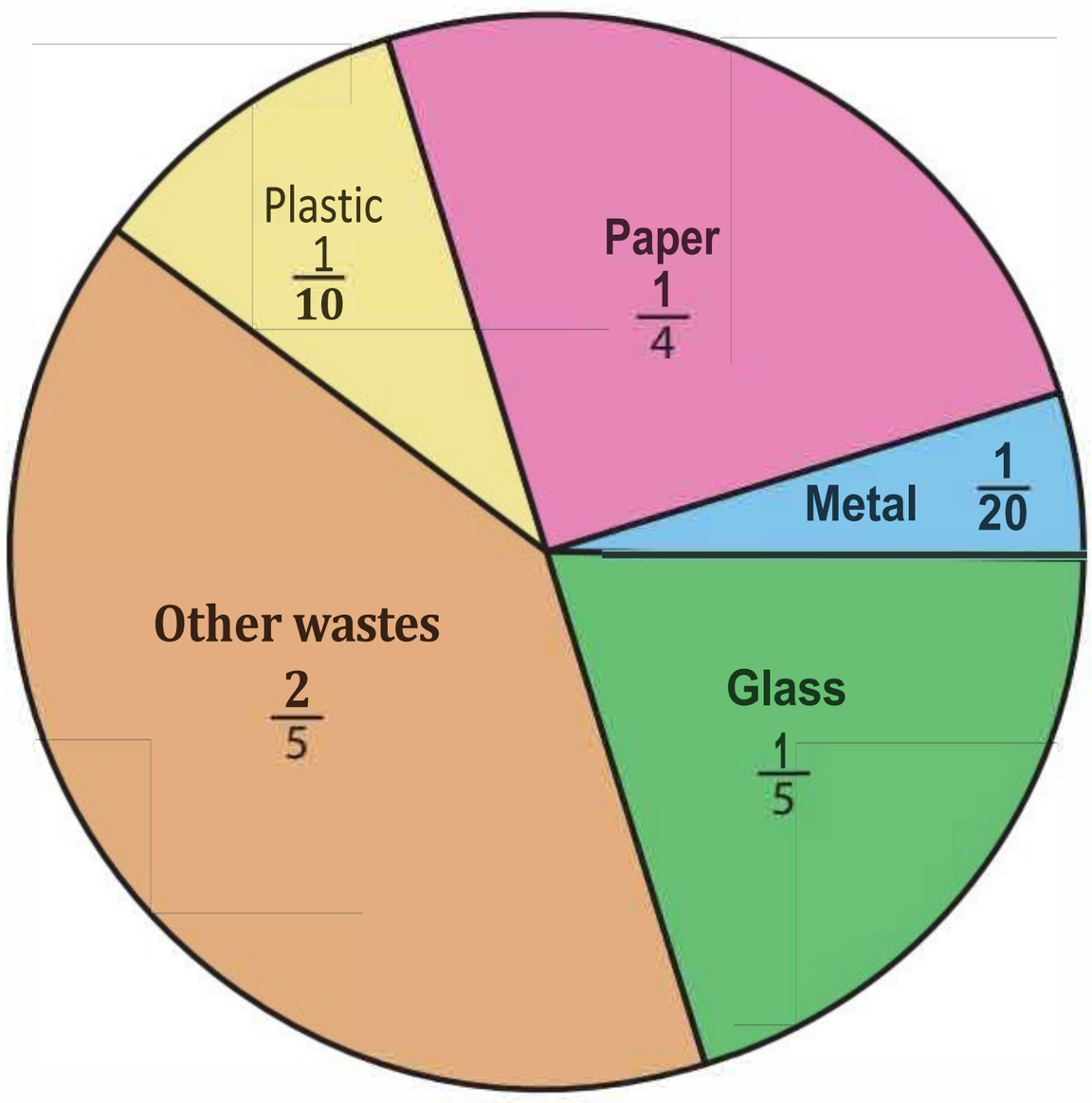
10) $\frac{9}{1} - \frac{8}{22} = \frac{18}{\mathbf{22}} - \frac{8}{\mathbf{22}} = \frac{10}{22} = \frac{5}{11}$

Name: _____ Score: _____

Answer Key

Pie Graph - Recycling

Hawaii, an island is a popular tourist place. 800 tons of waste materials were recycled in a year. A pie graph is made to show the density of each material recycled. Use the pie graph and answer the questions.



1 Which material was recycled fewer? Paper or glass? **Glass**

2 How many tons of other wastes were recycled? **320**

3 Which material was recycled in large quantities? **Other wastes**

4 Which material weighing 160 tons was recycled? **Glass**

5 What is the difference in quantity between paper and plastic being recycled? **120**

Converting Percentages to Fractions **Answers**

Convert the following percentages to their equivalent fractions. The first one has been done for you.

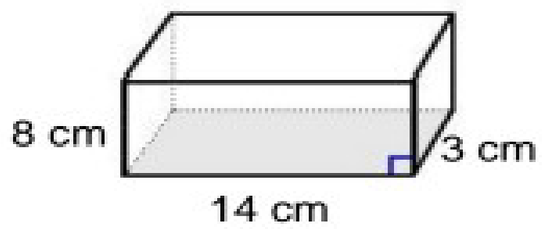
1. 76%= $\frac{76}{100}$
2. 22% = $\frac{22}{100}$
3. 58% = $\frac{58}{100}$
4. 64% = $\frac{64}{100}$
5. 26% = $\frac{26}{100}$
6. 84% = $\frac{84}{100}$
7. 55% = $\frac{55}{100}$
8. 38% = $\frac{38}{100}$
9. 71 % = $\frac{71}{100}$
10. 57% = $\frac{5}{100}$
11. 33% = $\frac{33}{100}$
12. 90% = $\frac{9}{100}$
13. 92% = $\frac{92}{100}$
14. 72% = $\frac{72}{100}$
15. 10% = $\frac{10}{100}$
16. 53% = $\frac{53}{100}$
17. 17% = $\frac{17}{100}$
18. 37% = $\frac{37}{100}$

Converting Percentages to Fractions **Answers**

Convert the following percentages to their equivalent fractions. The first one has been done for you.

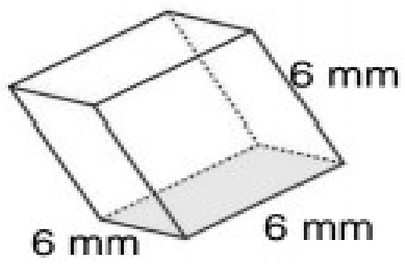
1. $110\% = \frac{110}{100} = 1\frac{10}{100}$
2. $5\% = \frac{5}{100}$
3. $51\% = \frac{51}{100}$
4. $67\% = \frac{67}{100}$
5. $93\% = \frac{93}{100}$
6. $25\% = \frac{25}{100}$
7. $162\% = \frac{162}{100} = 1\frac{62}{100}$
8. $59\% = \frac{59}{100}$
9. $17\% = \frac{17}{100}$
10. $109\% = \frac{109}{100} = 1\frac{9}{100}$
11. $156\% = \frac{156}{100} = 1\frac{56}{100}$
12. $29\% = \frac{29}{100}$
13. $84\% = \frac{84}{100}$
14. $168\% = \frac{168}{100} = 1\frac{68}{100}$
15. $56\% = \frac{56}{100}$
16. $123\% = \frac{123}{100} = 1\frac{23}{100}$
17. $69\% = \frac{69}{100}$
18. $37\% = \frac{37}{100}$
19. $105\% = \frac{105}{100} = 1\frac{5}{100}$
20. $48\% = \frac{48}{100}$
21. $122\% = \frac{122}{100} = 1\frac{22}{100}$
22. $38\% = \frac{38}{100}$
23. $190\% = \frac{190}{100} = 1\frac{90}{100}$
24. $31\% = \frac{31}{100}$
25. $8\% = \frac{8}{100}$
26. $41\% = \frac{41}{100}$
27. $183\% = \frac{183}{100} = 1\frac{83}{100}$

1)



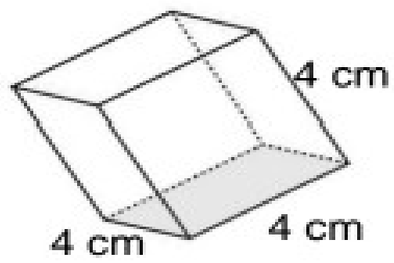
Surface Area: _____

2)



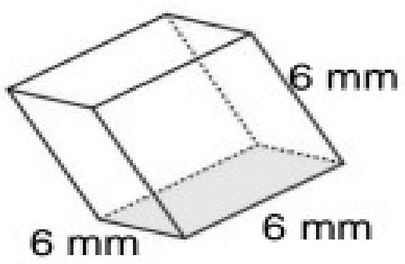
Surface Area: _____

3)



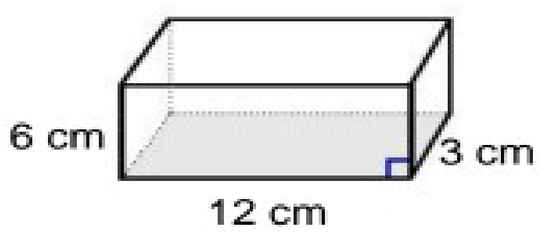
Surface Area: _____

4)



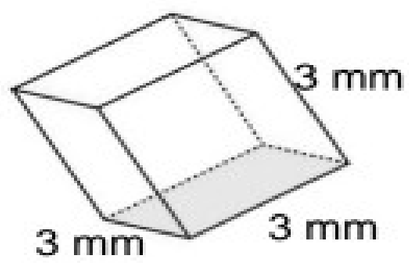
Surface Area: _____

5)



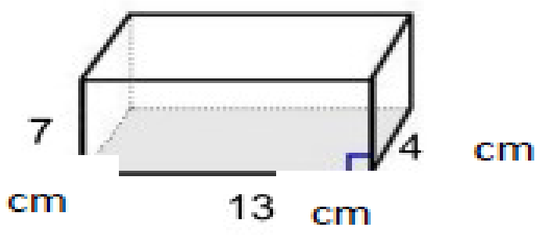
Surface Area: _____

6)



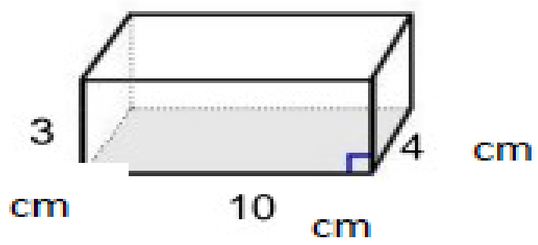
Surface Area: _____

7)



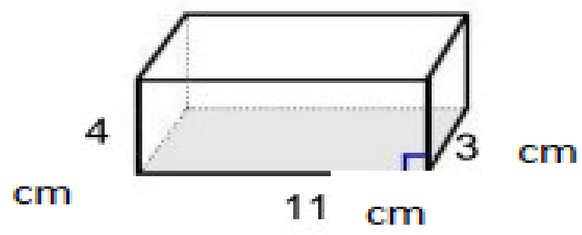
Surface Area: _____

8)



Surface Area: _____

9)



Surface Area: _____

Answers: 1) 356.00 cm^2

2) 216.00mm^2

3) 96.00 cm^2

4) 215.00 mm^2

5) 252.00 cm^2

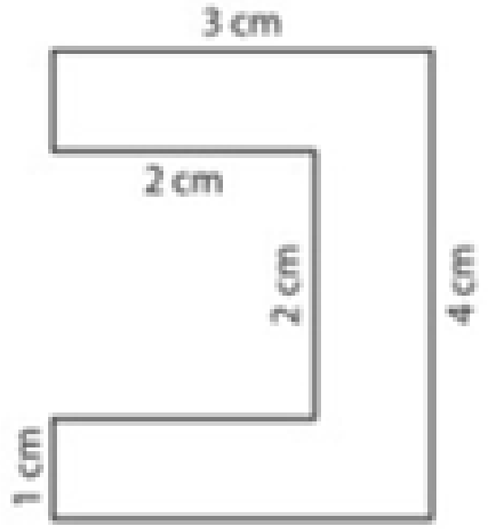
6) 54.00 mm^2

7) 342.00 cm^2

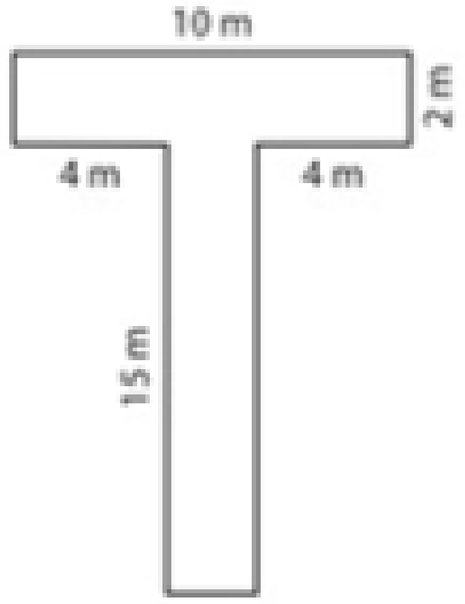
8) 164.00 cm^2

9) 178.00 cm^2

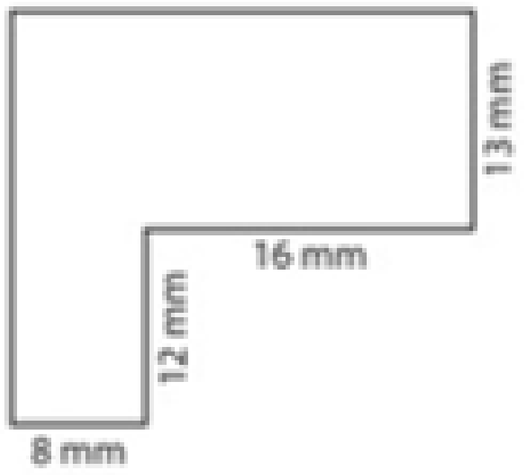
1)



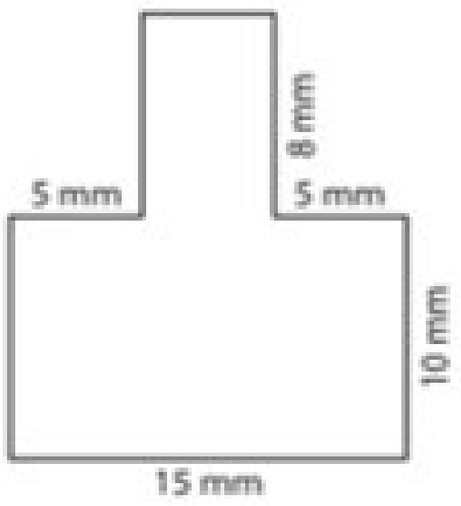
2)



3)

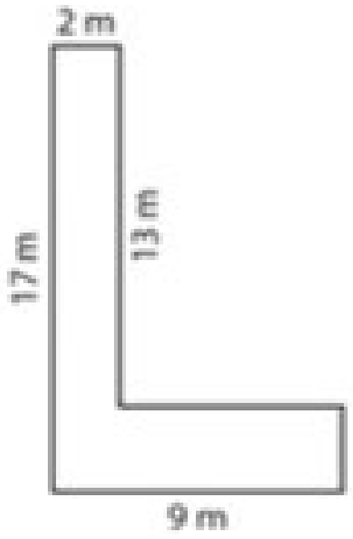


4)



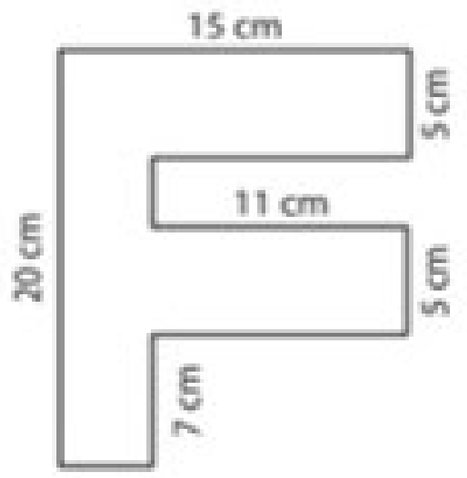
Perimeter = _____

5)



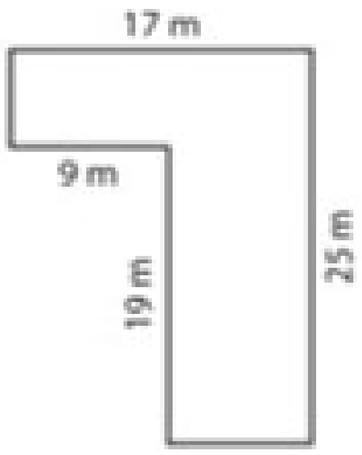
Perimeter = _____

6)



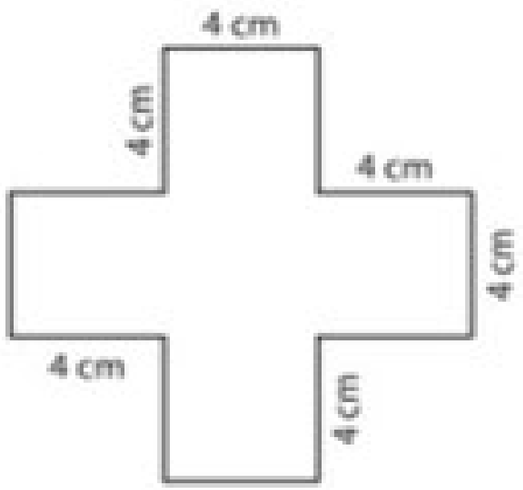
Perimeter = _____

7)



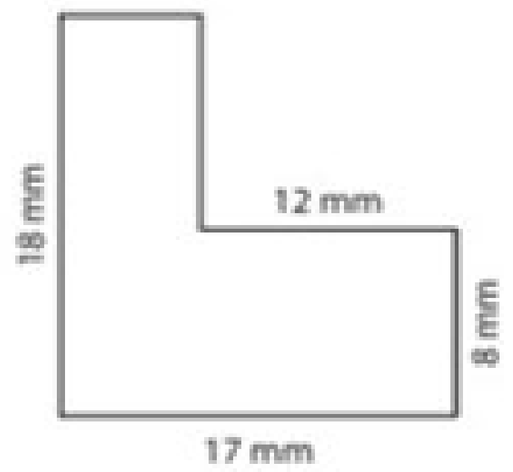
Perimeter = _____

8)



Perimeter = _____

9)



Perimeter = _____

1) 18cm 2) 54m

3) 98mm 4) 66mm

5) 52m 6) 92cm

7) 84m 8) 48cm

9) 70mm

Name: _____ Score : _____

Teacher: _____ Date: _____

185	180	684	418	984
x **29**	x **56**	x **60**	x **20**	x **14**
5365	10080	41040	8360	13776

600	126	607	443	976
x **55**	x **32**	x **31**	x **13**	x **77**
33000	4032	18817	5759	75152

833	127	607	554	408
x **53**	x **69**	x **51**	x **10**	x **37**
44149	8763	30957	5540	15096

Name: _____

Answer key

Least Common Multiple

Sheet 2

Find the least common multiple for each pair of numbers.

1) 4, 12

Multiples of 4 : 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, ...

Multipies of 12 : 12, 24, 36, 48, 60, 72, 84, 96,108, 120, ...

LCM(4, 12) - 12

2) 18, 24

Multiples of 18 : 18, 36, 54, 72, 90, 108, 126, 144, 162, 180, .. .

Multiples of 24: 24, 48, 72, 96, 120, 144, 168,192,216,240, .. .

LCM(18, 24) - 72

3) 3, 9

Multiples of 3 : 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, .. .

Multiples of 9 : 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, .. .

LCM(3, 9) - 9

4) 21,28

Multiples of 21 : 21, 42, 63, 84, 105, 126, 147, 168,189,210, .. .

Multiples of 28 : 28, 56, 84, 112, 140, 168, 196, 224, 252, 280, .. .

LCM(21,28) - 84

5) 45, 27

Multiples of 45 : 45, 90, 135,180,225,270,315,360,405,450,.. .

Multiples of 27: 27, 54, 81,108, 135, 162,189,216,243,270, .. .

LCM(45, 27) = 135

Name: _____ **Score :** _____

Teacher: _____ **Date:** _____

Mean, Mode, Median, and Range

1) 17, 7, 7, 17, 14, 14, 16,20, 14

7, 7, 14, 14, 14, 16, 17, 17,20

Mean 14 Median 14 Mode 14 Range 13

2) 12, 19, 15, 11, 13

11, 12, 13, 15, 19

Mean 14 Median 13 Mode None Range 8

3) 15,9, 12, 15,9

9, 9, 12, 15, 15

Mean 12 Median 12 Mode 9 15 Range 6

4) 20,20, 17, 10, 10, 18, 10

10, 10, 10, 17, 18,20,20

Mean 15 Median 17 Mode 10 Range 10

5) 13,9, 7,8, 18

7, 8, 9, 13, 18

Mean 11 Median 9 Mode = None Range 11

6) 6, 16, 16, 14, 18, 12, 7, 18, 19

6, 7, 12, 14, 16, 16, 18, 18, 19

Mean 14 Median 16 Mode 16 18 Range 13

7) 14, 17,8,9,20,8,8

8,8,8,9,14,17,20

Mean 12 Median 9 Mode 8 Range 12

8) 6, 15, 14, 15, 13, 14,9, 19, 12

6, 9, 12, 13, 14, 14, 15, 15, 19

Mean 13 Median 14 Mode 14 15 Range 13

9) 14, 20,20, 7, 11, 12,9,8, 7

7,7,8,9,11,12,14,20,20

Mean 12 Median 11 Mode 7 20 Range 13

10) 18, 12, 17, 12, 18, 11, 10

10, 11, 12, 12, 17, 18, 18

Mean 14 Median 12 Mode 12 18 Range 8

Answers

5 x 10 = **50**

6 x 100 = **600**

7 / 10 = **0.7**

4 x 10 = **40**

70 / 100 = **0.7**

6 x 10 = **60**

2 x 100 = **200**

28 / 10 = 2.8

5 / 10 = **0.5**

8 / 10 = **0.8**

7 x 100 = **700**

8 x 10 = **80**

3 x 100 = **300**

2 / 10 = **0.2**

80 / 100 = **0.8**

9 x 10 = **90**

Fill in the missing numbers:

7 X **100** = 700

30 / **100** = 0.3

64.3 / **10** = 6.4 3

3 X **10** = 30

Fill in the space with either x or + so *that* the calculation is correct:

62 / 10 = 6.2

5 X 100 = 500

4 X 10 = 40

40 / 100 = 0.4

True **(T)** or False **(F)**:

7 x 100 = 70 II]

30 / 100 = 0.3 [!]

79 / 10 = 790 II]

1 x 10 = 10 [!]

Answers

34 x 10 = **340**

65 x 100 = **6500**

53 / 10 = 5.3

87 x 10 = **870**

785 / 100 = **7.85**

64 x 10 = **640**

39 x 100 = **3900**

283 / 10 = **28.3**

65 / 10 = **6.5**

42 / 10 = **4.2**

17 x 100 = **1700**

453 x 10 = **4530**

34 x 100 = **3400**

24 / 10 = **2.4**

124 / 100 = **1.24**

736 x 10 = **7360**

Fill in the missing numbers:

67 **x 10** = 670

640 / **100** = 6.4

68 / **10** = 6.8

73 x **100** = 7300

Fill in the space with either x or + so that the calculation is correct:

542 + 10 = 54.2

473 + 100 = 4.73

46 x 10 = 460

37 x 10 = 370

True **(T)** or False **(F):**

67 x 100 = 670 [II

568 + 100 = 0.568 [II

809 + 10 = 80.9 CT]

64 x 10 = 640 CT]

Name: _____ Score : _____

Teacher: _____ Date: _____

Order of Operations

1) (8 - 3) + 20 / 5
5 + 20 / 5
5 + 4
9

2) (9 +33 - 2) / 8
(42 - 2) / 8
40 / 8
5

3) **(21 + 2) x 11 + 6**
23 x 11 + 6
253 + 6
259

4) (18- 4)x 12+ 5
14 x 12 + 5
168 + 5
173

5) 3x 2 x(3- 3)
3 x 2 x 0
6 x 0
0

6) 2x 8 x(9- 6)
2 x 8 x 3
16 x 3
48

7) (14 + 3)+ 18/ 6
17 + 18 / 6
17 + 3
20

8) (8 +16) / (-4 + 7)
24 / 3
8

9) (8 +45 - 5) / 24
(53 - 5) /24
48 /24
2

10) (8 +42) / (-1 + 6)
50 / 5
10

Name: _____ Score : _____

Teacher: _____ Date: _____

Rounding Integer Numbers

Round each number to the nearest hundred.

1)	972	1,000	6)	693	700
2)	635	600	7)	622	600
3)	995	1,000	8)	475	500
4)	228	200	9)	634	600
5)	492	500	10)	798	800

Round each number to the nearest hundred.

1)	4,161	4,200	6)	1,556	1,600
2)	3,249	3,200	7)	4,117	4,100
3)	8,379	8,400	8)	6,945	6,900
4)	4,673	4,700	9)	4,279	4,300
5)	5,928	5,900	10)	4,279	4,300

Name:_____ **Score:** _____

Answer key

Start, End and Elapsed Time

Nearest Minutes: ES2

Q.No	Start Time	End Time	Elapsed Time
1)	3:05 A.M.	8:21 A.M.	**5 hours and 16 minutes**
2)	8:34 P.M.	**11:52 P.M.**	3 hours and 18 minutes
3)	3:10 A.M.	9:44 A.M.	**6 hours and 34 minutes**
4)	**8:12 P.M.**	10:27 P.M.	2 hours and 15 minutes
5)	1:18 A.M.	**10:09 A.M.**	8 hours and 51 minutes
6)	7:10 P.M.	8:52 P.M.	**1 hour and 42 minutes**
7)	**5:33 A.M.**	8:47 A.M.	3 hours and 14 minutes
8)	4:54 P.M.	**10:03 P.M.**	5 hours and 9 minutes
9)	**3:16 A.M.**	9:28 A.M.	6 hours and 12 minutes
10)	5:19 P.M.	6:04 P.M.	**45 minutes**
11)	1:08 A.M.	**7:17 A.M.**	6 hours and 9 minutes
12)	**2:22 P.M.**	Midnight	9 hours and 38 minutes
13)	5:45 A.M.	**9:33 A.M.**	3 hours and 48 minutes
14)	3:11P.M.	10:10 P.M.	**6 hours and 59 minutes**
15)	**8:14 A.M.**	11:36 A.M.	3 hours and 22 minutes

4. B

The shape at the front moves to the back.

5. E

The lines below the shape move into the shape. The figure then rotates 45 degrees clockwise.

Section 5 - Look at the Figure from the Right

1. C

There should bea grey cube at the back of the figure, on the bottom, which rules out options A,B and D.

2. D

There should be a white block two cubes high on the left of the grey block, which rules out options A B and C.

3. C

There should be a white block three cubes long at the top of the figure, which rules out option A. There should be a white cube at the front of the figure, on the bottom, which rules out options Band D.

4. B

There should be a white block two cubes high on top of a white cube at the front of the figure. This rules out options A,C and D.

Section 6 - Find the Figure Like the First Two

1. D

All figures must have one thick jagged line made upof four short.er lines inside an ellipse.

2. B

All figures must have three0rey shapes and one white shape.

3. C

In all figures, there must be a white line at the front, going diagonally down to the right.

4. A

All figures must have a four-sided shape at the top.

5. D

All figures must have three rings. Two must be the same colour and one must be different. The grey rin(Js must be in front of the black rings.

ASSESSMENT TEST 10

Section 1 - Complete the Series

1. A

Ineach5eries square, the white rectangle gets lon0er and the shading of the triangle alternates between grey and white.

2. A

The figure rotates 90 degrees clockwise In each series square. The shading of the shape alternates between white and grey.

3. 8

In each series square, a shape is added to another comer of the5quare. The shading(J of the small inner circle alternates between gray and white.

4. D

In each series square, the figure rotates 90 degrees clockwise. The height of the clock alternates between tall and short.

5. B

Each shape moves upon place in each series square. When they reach the top, they start against the bottom.

Section 2 - Reflect the Figure

1. A

In option B, thelar0e black shape has not been reflected. Options 180 degree rotation. In option D, the ellipses have not been reflected.

2. D

Option A has two5quare5 on the right-hand scale. In option B, the scales are at the wrong an0le. Option Chas not been reflected and the squares have swapped shadings.

3. D

Options A and Care the wrong shape. Option B is a downwards reflection.

4. B

Option A isa 45 degreeanticlockwi5e rotation. Option Chas the wrong shading. In option D, the arrows are pointing in the wrong direction.

5. C

Options A and B have the wrong shading. Option Disa 180 degree rotation.

Section 3 - Complete the Pair

1. C

The hatching inside the large shape rotates 90degrees.

2. A

. The shape inside the triangle swap places with the shape on top of the triangle.

3. E

The two shapes at the bottom move up to the top of the large black shape. The black shape at the top gets bigger.

4. B

The figure rotates 45 degrees anticlockwise and the smaller white shape turns grey.

5. E

All the shapes move up one place and the top shape moves to the bottom. (Each shape keeps the same shading.)

Section 4 - Look at the Figure from the Right

1. A

There should be a grey block in the middle of the figure, at the back. This rules out options B,C and D.

2. C

There should be a white cube on the left-hand side of the figure,at the front. which rules out options A Band D.

3. A

There should be a white cube at the top of the figure. In the middle, which rules out options B.C and D.

4. A

There should be a white block. Two cubes long, lying on its side at the top of the figure. This rules out options Band D. The grey cube should have one of its faces touching the long white block. which rule5 out option C.

ASSESSMENT TEST 11

Section 1 - Find the Figure Like the First Two

1. D

All figures must have a large pentagon.

2. D

All figures must have two black triangles at the top. The grey 5hapes on the left and right of the figure must have four sides.

3. A