



**BROAD HORIZON**  
— T U I T I O N —

# **11+ Tuition**

**Year 4**

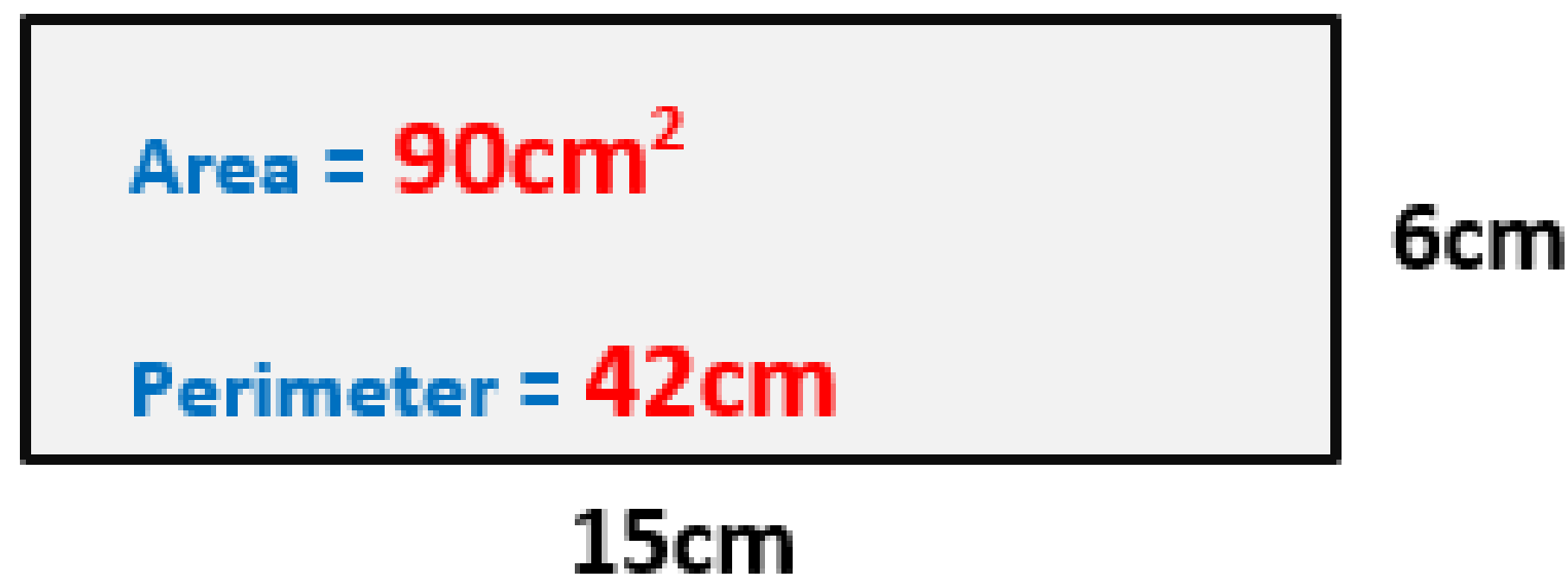
**Week 19**

Revision Lesson

**ANSWERS**

## Starter Task – Quick Revision

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

**156**

5. How much more than -32 is 12 ?

**44**

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

**4.5**

7.  $0.75 \times 1000 =$

**750**

8. What is  $78 \times 9 =$

**702**

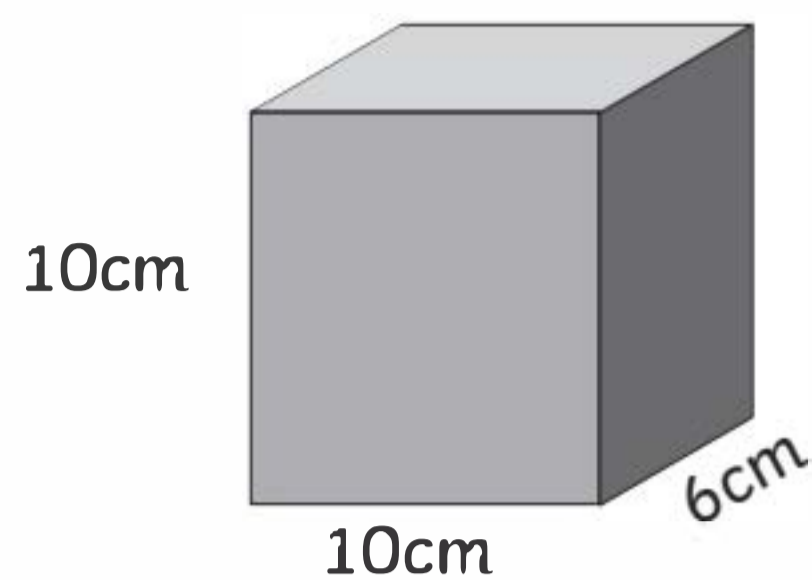
9. Round 3.675 to the nearest 2 decimal places

**3.68**

# Calculate Volume of Cuboid Activity Sheet (1) **Answers**

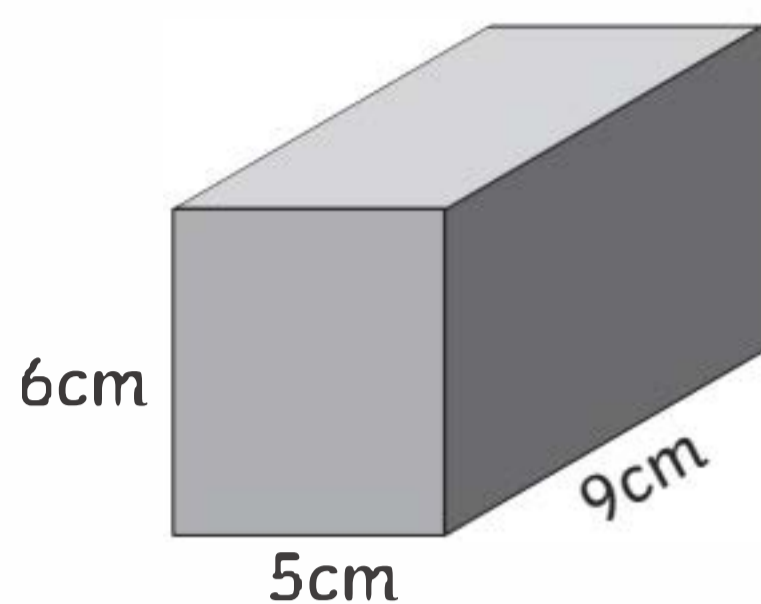
Calculate the volume of the following cuboids.

1.



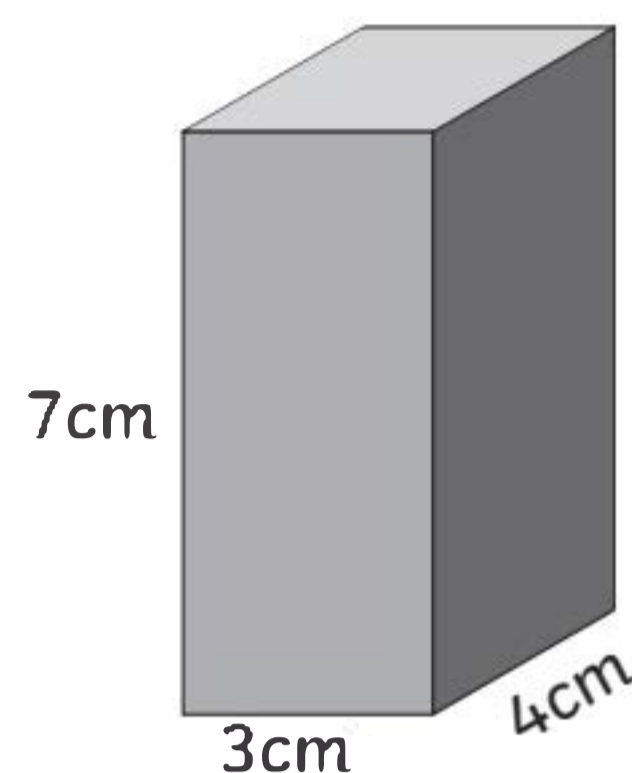
Volume = **600cm<sup>3</sup>**

2.



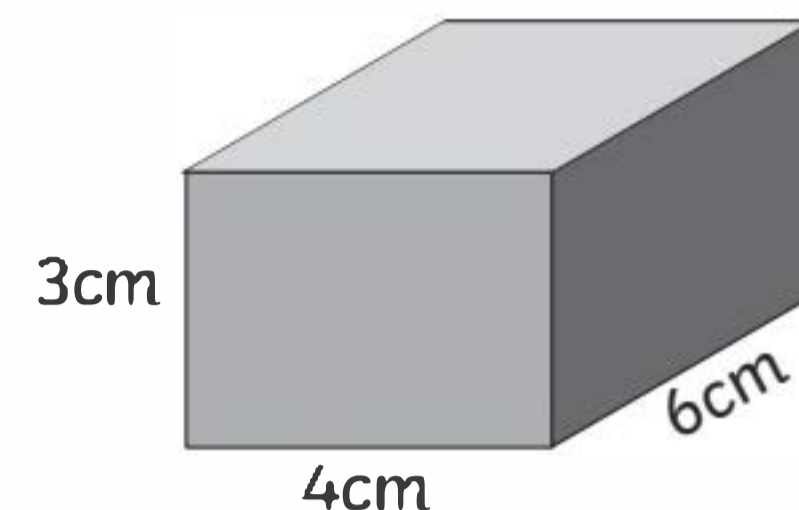
Volume = **270cm<sup>3</sup>**

3.



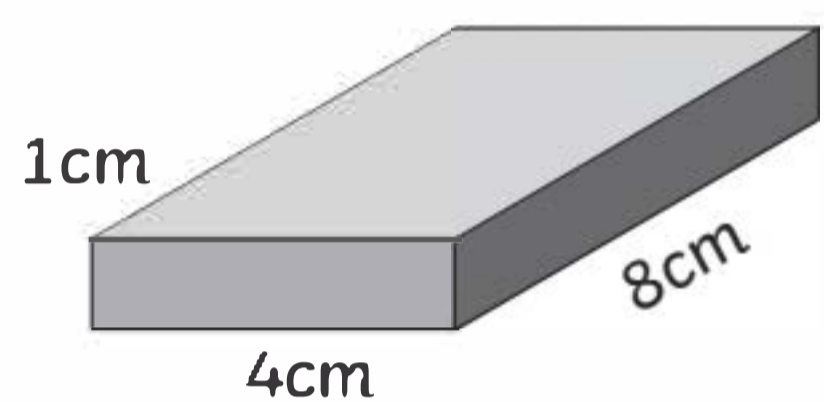
Volume = **84cm<sup>3</sup>**

4.



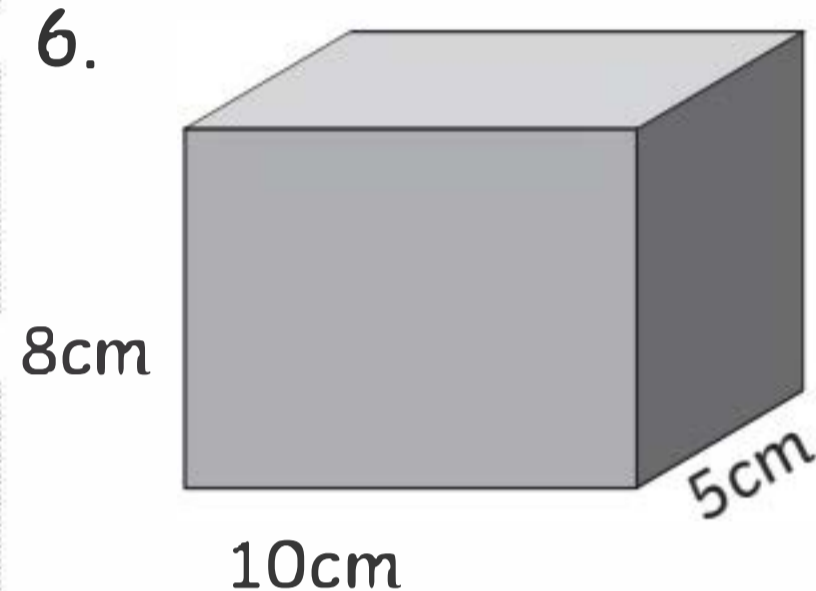
Volume = **72cm<sup>3</sup>**

5.



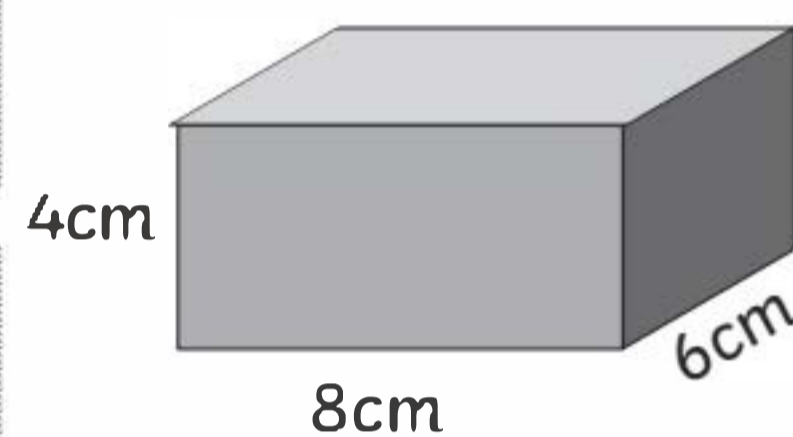
Volume = **32cm<sup>3</sup>**

6.



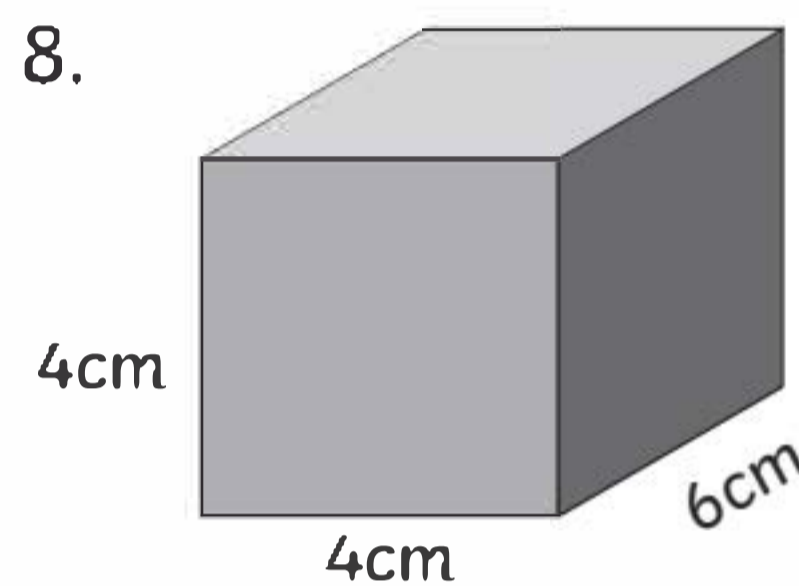
Volume = **400cm<sup>3</sup>**

7.



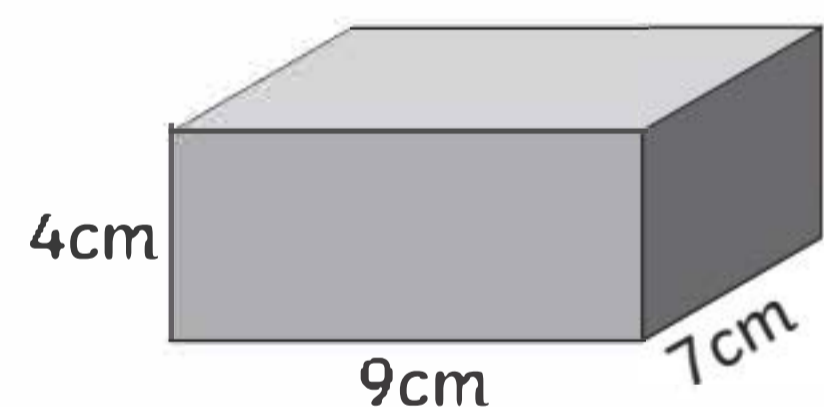
Volume = **192cm<sup>3</sup>**

8.



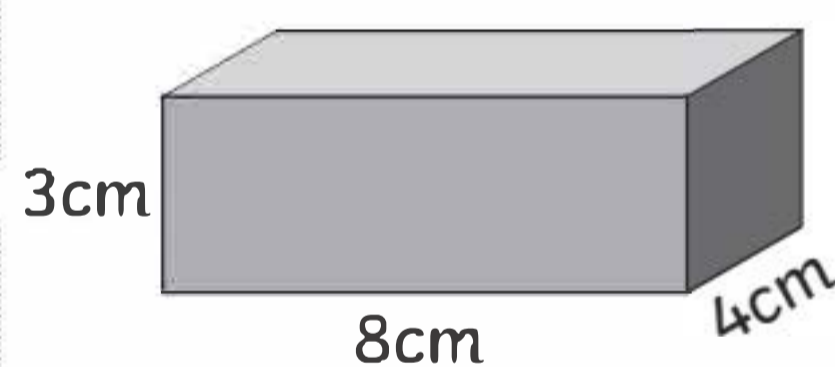
Volume = **96cm<sup>3</sup>**

9.



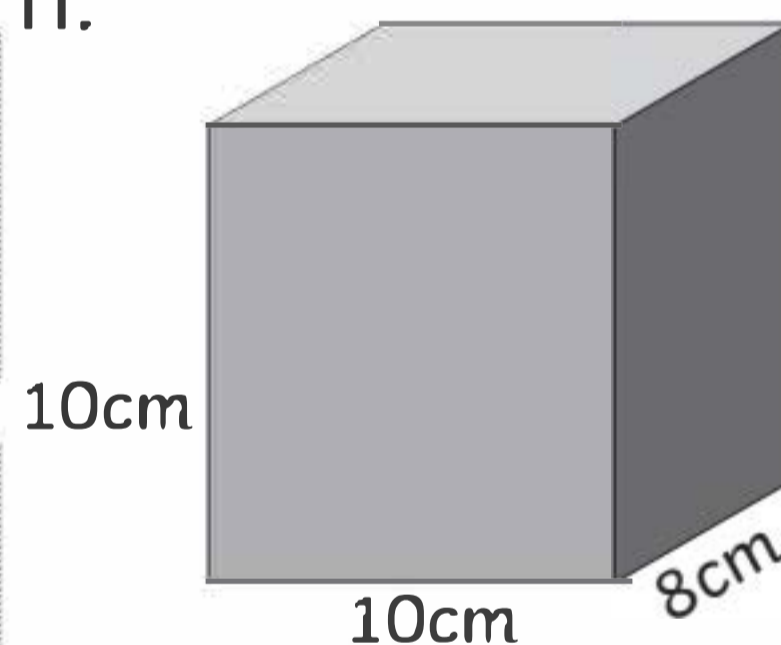
Volume = **252cm<sup>3</sup>**

10.



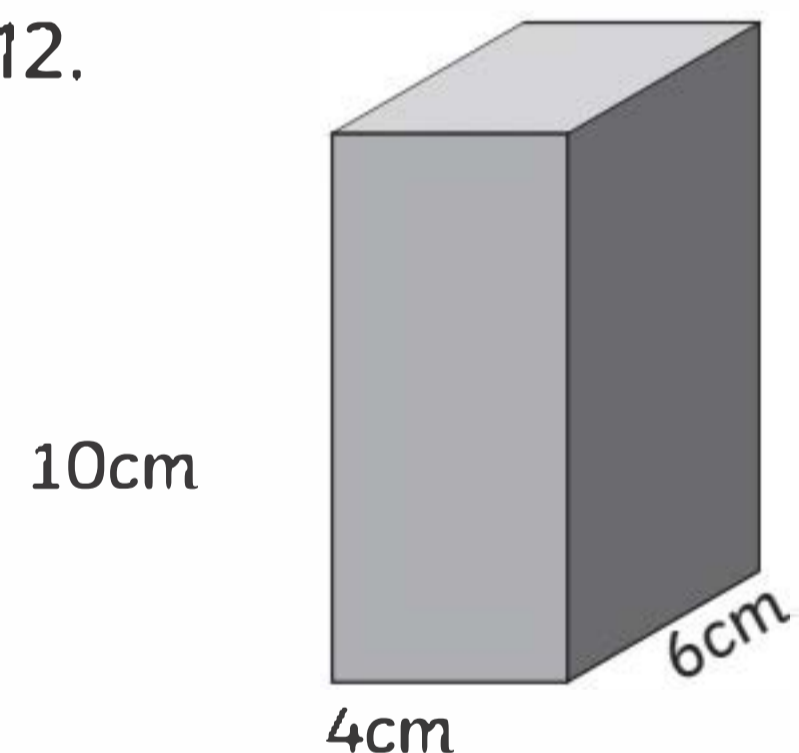
Volume = **96cm<sup>3</sup>**

11.



Volume = **800cm<sup>3</sup>**

12.



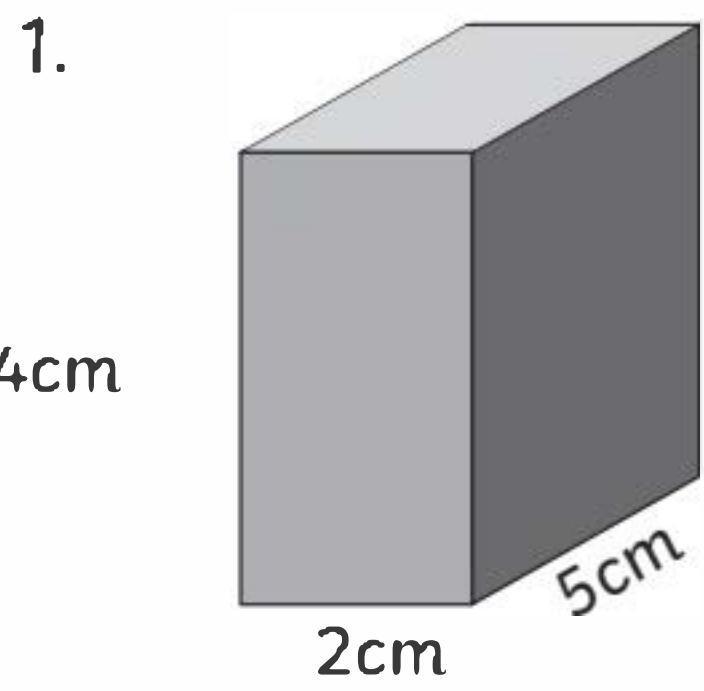
Volume = **240cm<sup>3</sup>**

## **Challenge**

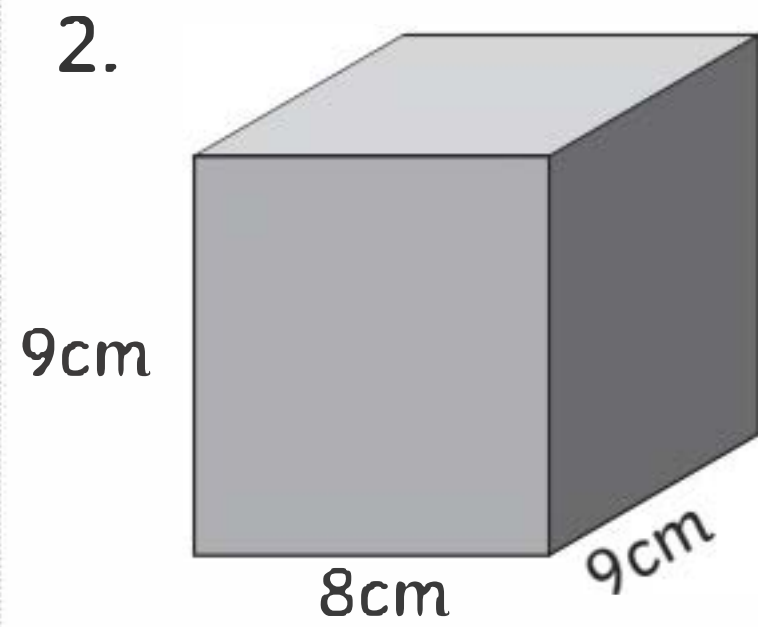
Draw 3 different cuboids with a volume of  $24\text{cm}^3$ , writing the dimensions. Your drawings don't need to be to scale.

# Calculate Volume of Cuboid Activity Sheet (2) Answers

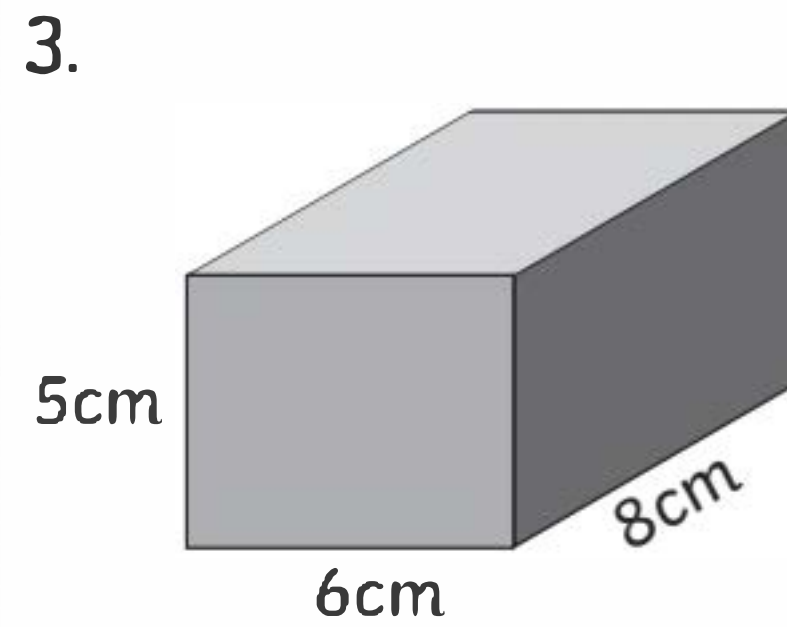
Calculate the volume of the following cuboids.



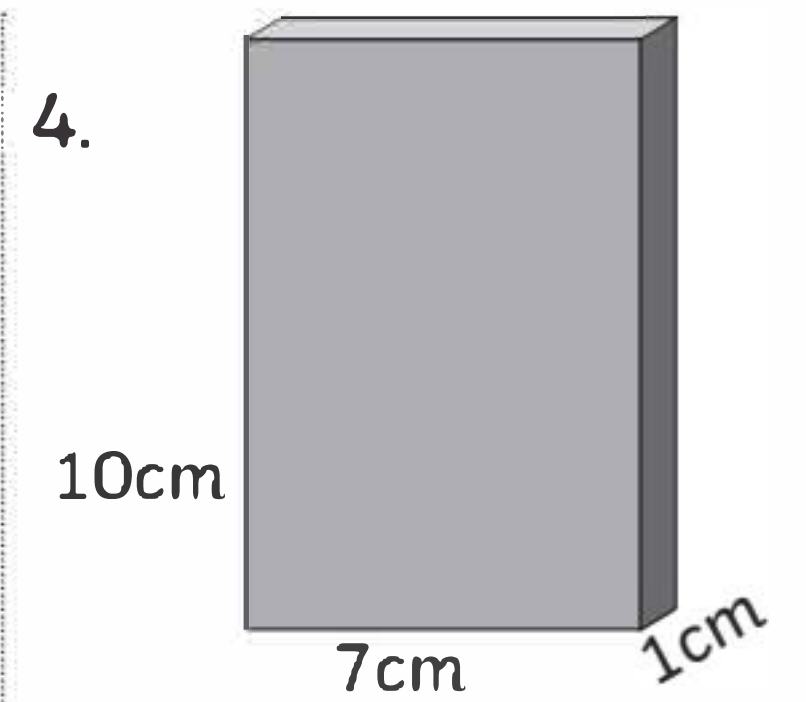
Volume = **40cm<sup>3</sup>**



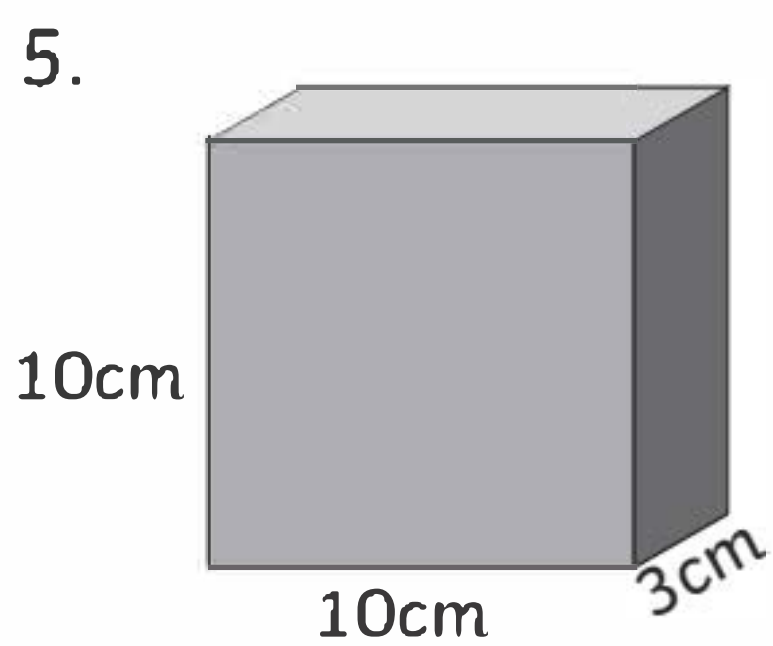
Volume = **648cm<sup>3</sup>**



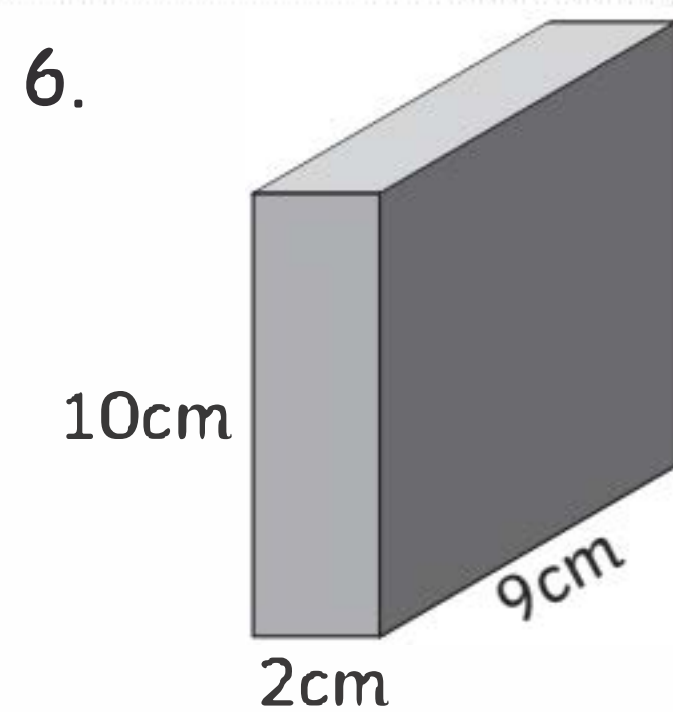
Volume = **240cm<sup>3</sup>**



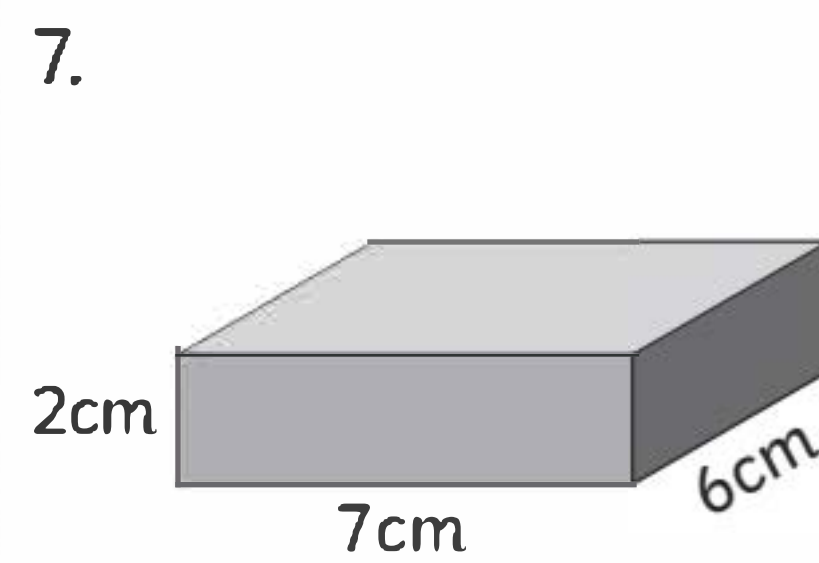
Volume = **70cm<sup>3</sup>**



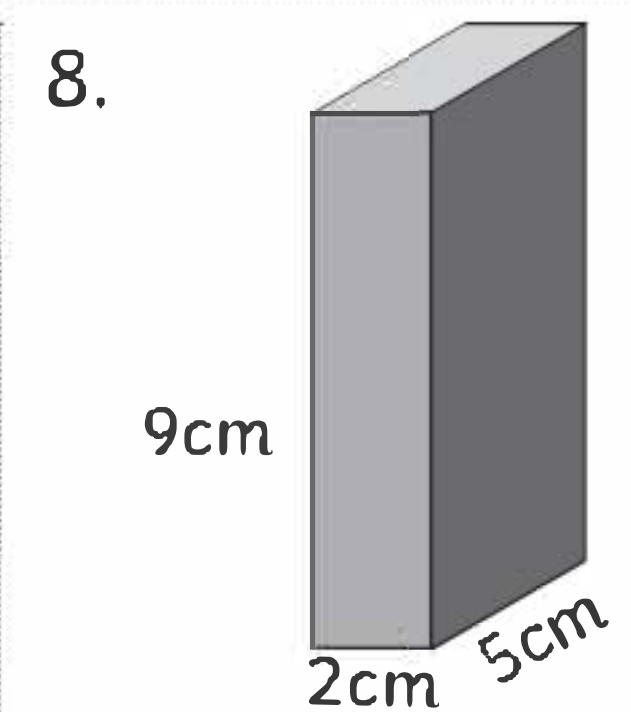
Volume = **300cm<sup>3</sup>**



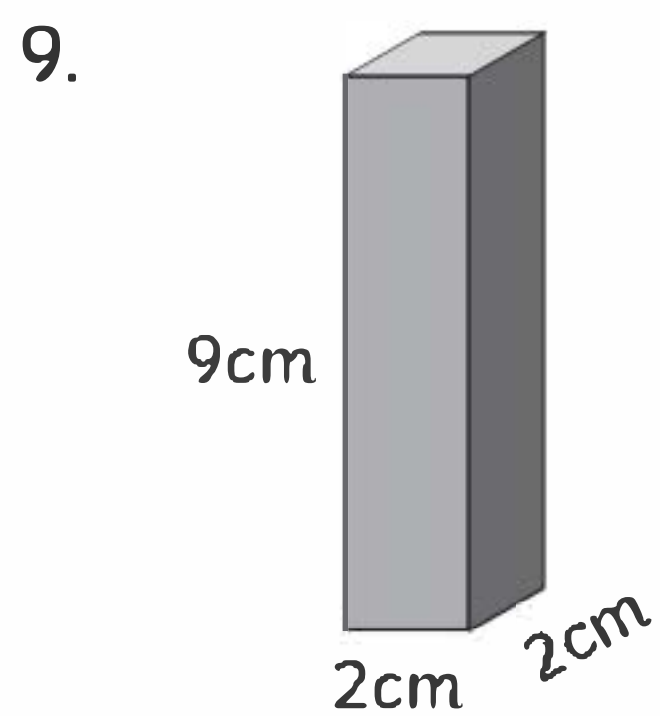
Volume = **180cm<sup>3</sup>**



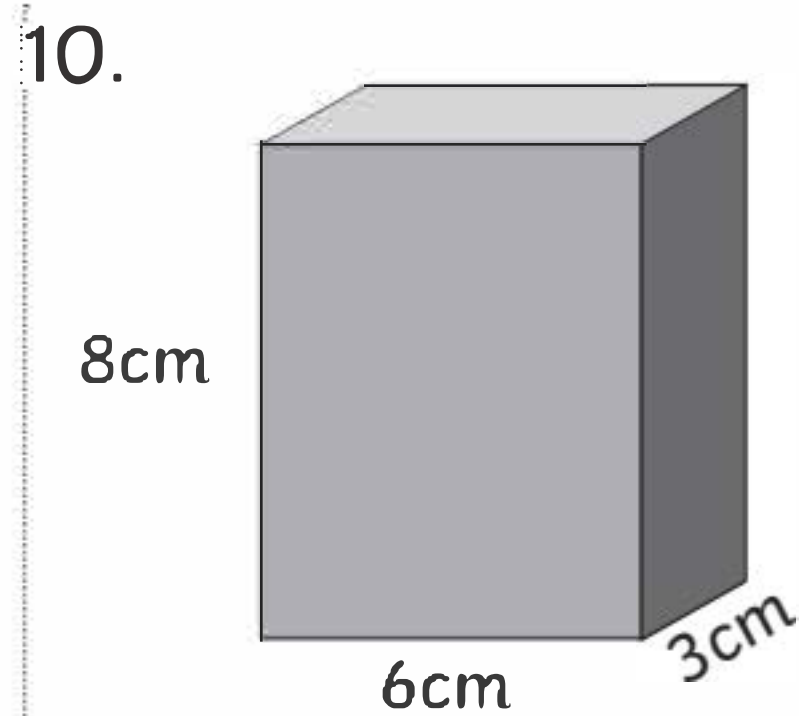
Volume = **84cm<sup>3</sup>**



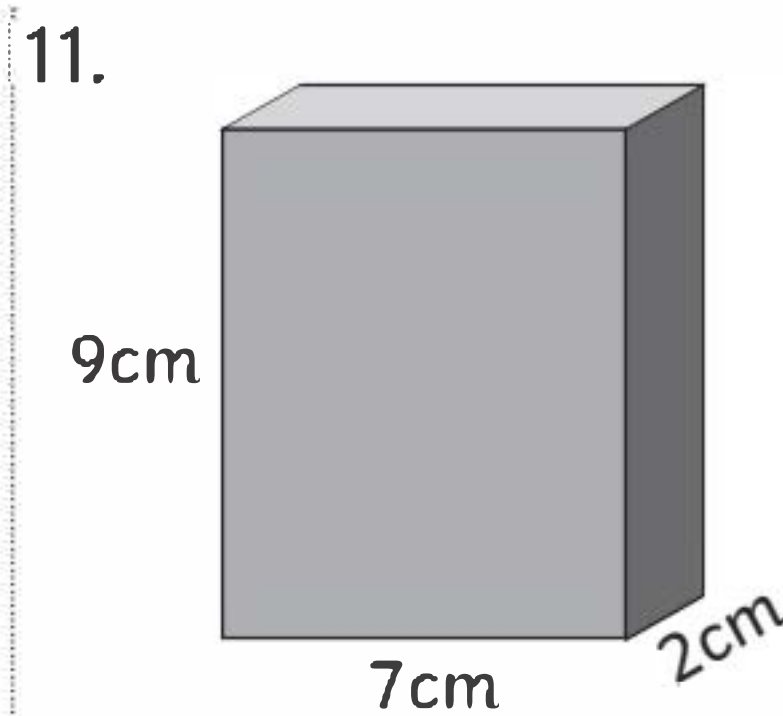
Volume = **90cm<sup>3</sup>**



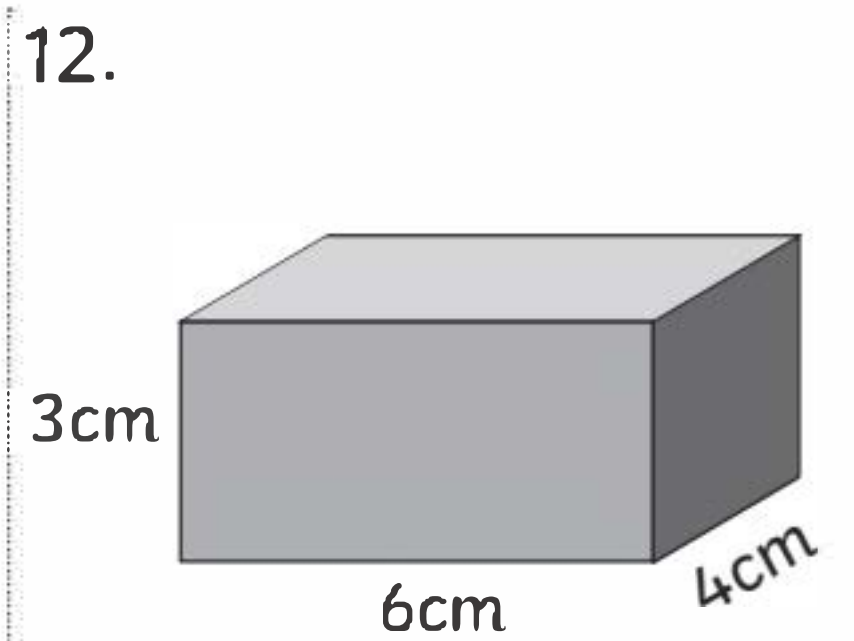
Volume = **36cm<sup>3</sup>**



Volume = **144cm<sup>3</sup>**



Volume = **126cm<sup>3</sup>**



Volume = **72cm<sup>3</sup>**

## Challenge

Draw 2 different cuboids with a total volume of 40m<sup>3</sup>, writing the dimensions. Your drawings don't need to be to scale!

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

### Adding Fractions

$$1) \quad \frac{1}{12} + \frac{2}{36} = \frac{3}{36} + \frac{2}{36} = \frac{5}{36}$$

$$2) \quad \frac{16}{58} + \frac{11}{29} = \frac{16}{58} + \frac{22}{58} = \frac{38}{58} = \frac{19}{29}$$

$$3) \quad \frac{8}{20} + \frac{4}{12} = \frac{24}{60} + \frac{20}{60} = \frac{44}{60} = \frac{11}{15}$$

$$4) \quad \frac{3}{7} + \frac{12}{14} = \frac{6}{14} + \frac{12}{14} = \frac{18}{14} = \frac{9}{7} = 1\frac{2}{7}$$

$$5) \quad \frac{7}{44} + \frac{3}{4} = \frac{7}{44} + \frac{33}{44} = \frac{40}{44} = \frac{10}{11}$$

$$6) \quad \frac{1}{3} + \frac{3}{5} = \frac{5}{15} + \frac{9}{15} = \frac{14}{15}$$

$$7) \quad \frac{16}{45} + \frac{10}{15} = \frac{16}{45} + \frac{30}{45} = \frac{46}{45} = 1\frac{1}{45}$$

$$8) \quad \frac{2}{29} + \frac{2}{58} = \frac{4}{58} + \frac{2}{58} = \frac{6}{58} = \frac{3}{29}$$

$$9) \quad \frac{8}{9} + \frac{5}{27} = \frac{24}{27} + \frac{5}{27} = \frac{29}{27} = 1\frac{2}{27}$$

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

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

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### Subtracting Fractions

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

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

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

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

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

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

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

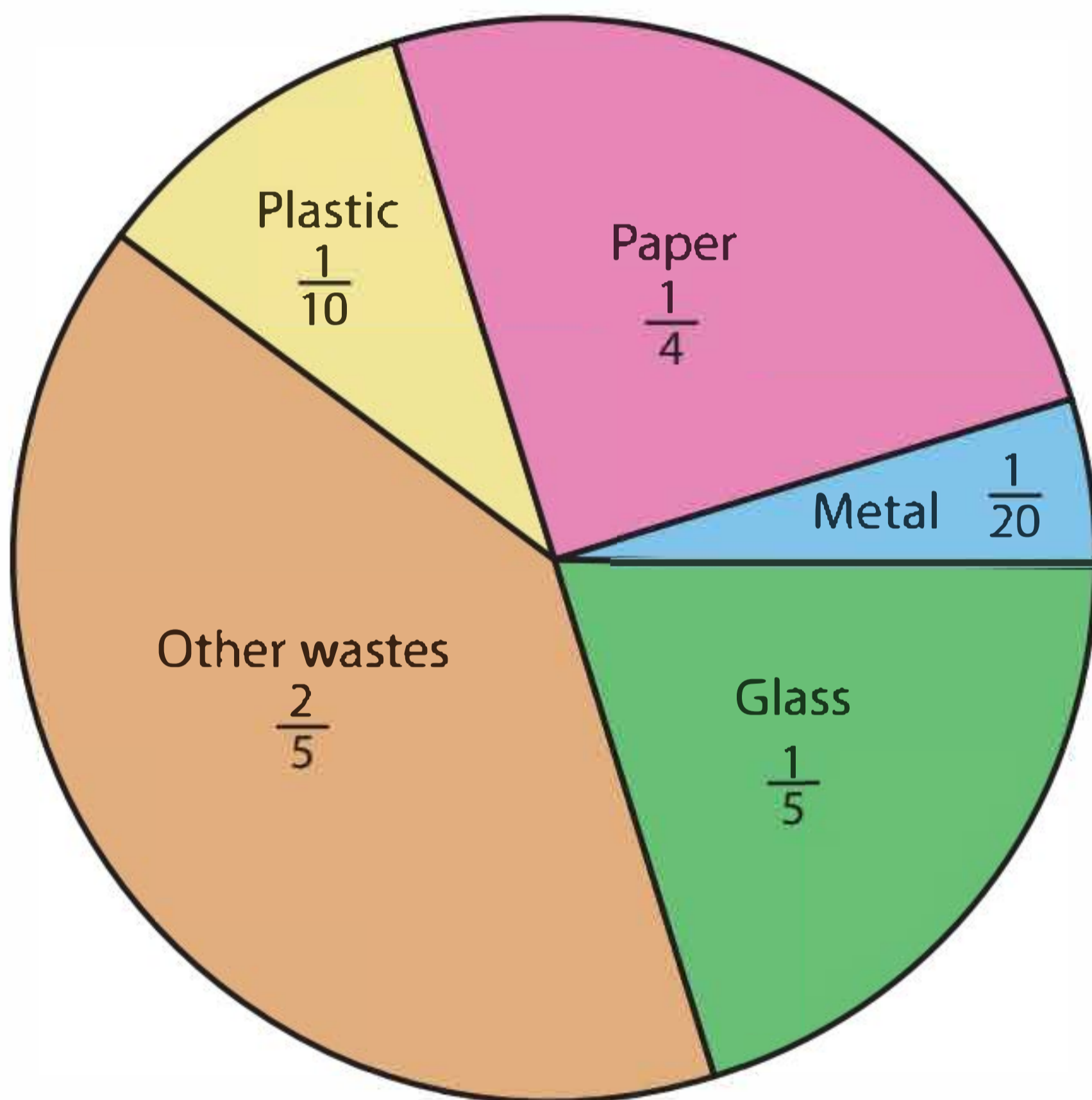
$$8) \quad \frac{10}{13} - \frac{13}{26} = \frac{20}{26} - \frac{13}{26} = \frac{7}{26}$$

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

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

**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.

$$1. 76\% = \frac{76}{100}$$

$$2. 22\% = \frac{22}{100}$$

$$3. 58\% = \frac{58}{100}$$

$$4. 64\% = \frac{64}{100}$$

$$5. 26\% = \frac{26}{100}$$

$$6. 84\% = \frac{84}{100}$$

$$7. 55\% = \frac{55}{100}$$

$$8. 38\% = \frac{38}{100}$$

$$9. 71\% = \frac{71}{100}$$

$$10. 57\% = \frac{57}{100}$$

$$11. 33\% = \frac{33}{100}$$

$$12. 90\% = \frac{90}{100}$$

$$13. 92\% = \frac{92}{100}$$

$$14. 72\% = \frac{72}{100}$$

$$15. 10\% = \frac{10}{100}$$

$$16. 53\% = \frac{53}{100}$$

$$17. 17\% = \frac{17}{100}$$

$$18. 37\% = \frac{37}{100}$$

# Converting Percentages to Fractions **Answers**

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

1.  $90\% = \frac{90}{100}$

2.  $33\% = \frac{33}{100}$

3.  $4\% = \frac{4}{100}$

4.  $17\% = \frac{17}{100}$

5.  $61\% = \frac{61}{100}$

6.  $35\% = \frac{35}{100}$

7.  $44\% = \frac{44}{100}$

8.  $23\% = \frac{23}{100}$

9.  $53\% = \frac{53}{100}$

10.  $9\% = \frac{9}{100}$

11.  $69\% = \frac{69}{100}$

12.  $22\% = \frac{22}{100}$

13.  $5\% = \frac{5}{100}$

14.  $80\% = \frac{80}{100}$

15.  $63\% = \frac{63}{100}$

16.  $46\% = \frac{46}{100}$

17.  $93\% = \frac{93}{100}$

18.  $85\% = \frac{85}{100}$

19.  $39\% = \frac{39}{100}$

20.  $60\% = \frac{60}{100}$

21.  $64\% = \frac{64}{100}$

22.  $54\% = \frac{54}{100}$

23.  $48\% = \frac{48}{100}$

24.  $31\% = \frac{31}{100}$

25.  $2\% = \frac{2}{100}$

26.  $34\% = \frac{34}{100}$

27.  $69\% = \frac{69}{100}$

# Converting Percentages to Fractions **Answers**

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

$$1. \quad 110\% = \frac{110}{100} = 1\frac{10}{100}$$

$$2. \quad 5\% = \frac{5}{100}$$

$$3. \quad 51\% = \frac{51}{100}$$

$$4. \quad 67\% = \frac{67}{100}$$

$$5. \quad 93\% = \frac{93}{100}$$

$$6. \quad 25\% = \frac{25}{100}$$

$$7. \quad 162\% = \frac{162}{100} = 1\frac{62}{100}$$

$$8. \quad 59\% = \frac{59}{100}$$

$$9. \quad 17\% = \frac{17}{100}$$

$$10. \quad 109\% = \frac{109}{100} = 1\frac{9}{100}$$

$$11. \quad 156\% = \frac{156}{100} = 1\frac{56}{100}$$

$$12. \quad 29\% = \frac{29}{100}$$

$$13. \quad 84\% = \frac{84}{100}$$

$$14. \quad 168\% = \frac{168}{100} = 1\frac{68}{100}$$

$$15. \quad 56\% = \frac{56}{100}$$

$$16. \quad 123\% = \frac{123}{100} = 1\frac{23}{100}$$

$$17. \quad 69\% = \frac{69}{100}$$

$$18. \quad 37\% = \frac{37}{100}$$

$$19. \quad 105\% = \frac{105}{100} = 1\frac{5}{100}$$

$$20. \quad 48\% = \frac{48}{100}$$

$$21. \quad 122\% = \frac{122}{100} = 1\frac{22}{100}$$

$$22. \quad 38\% = \frac{38}{100}$$

$$23. \quad 190\% = \frac{190}{100} = 1\frac{90}{100}$$

$$24. \quad 31\% = \frac{31}{100}$$

$$25. \quad 8\% = \frac{8}{100}$$

$$26. \quad 41\% = \frac{41}{100}$$

$$27. \quad 183\% = \frac{183}{100} = 1\frac{83}{100}$$

Name : \_\_\_\_\_

Score : \_\_\_\_\_

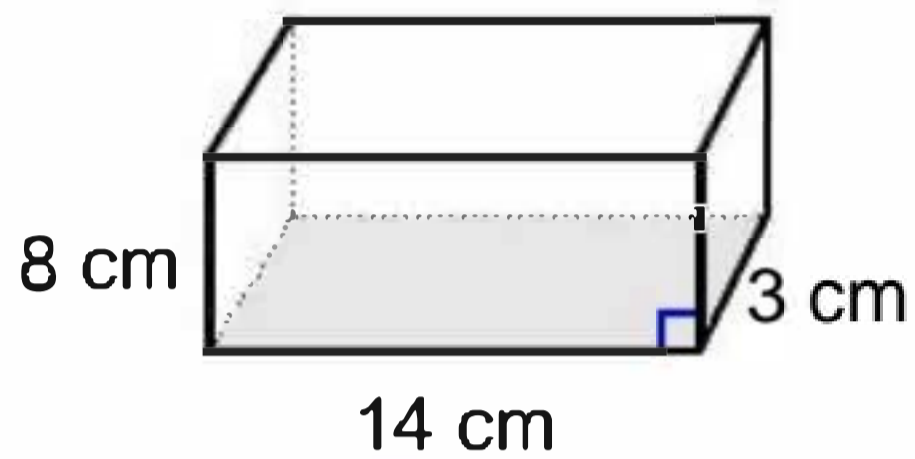
Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

### Surface Area of Prisms and Pyramids

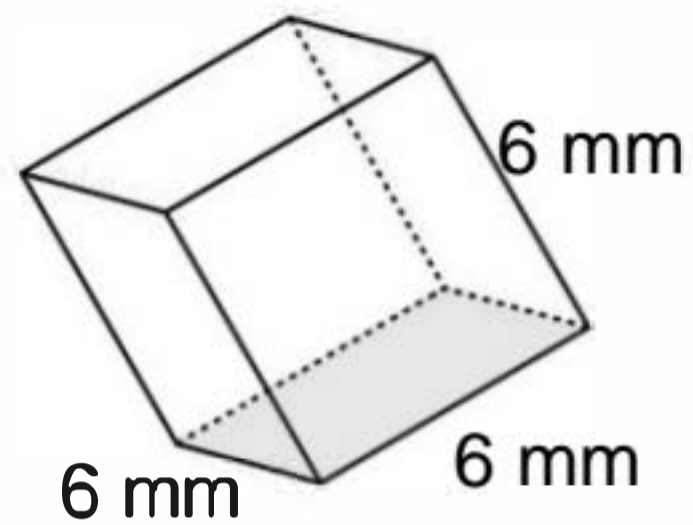
Find the surface area of each figure. Round answers to the nearest hundredth, if necessary.

1)



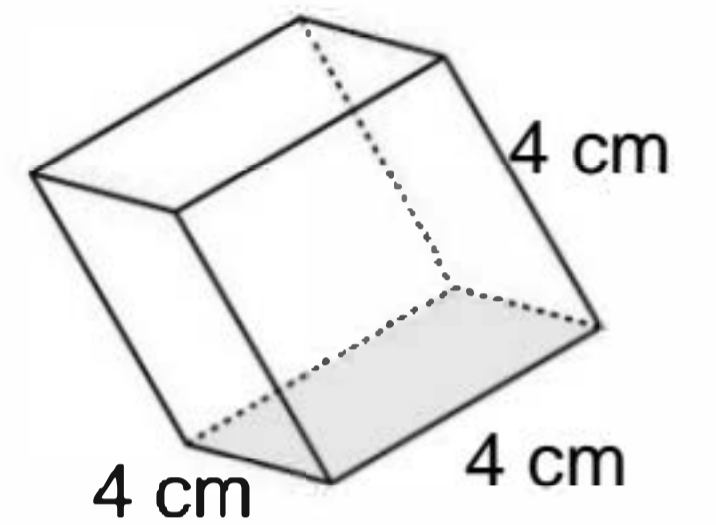
Surface Area: 356.00 cm<sup>2</sup>

2)



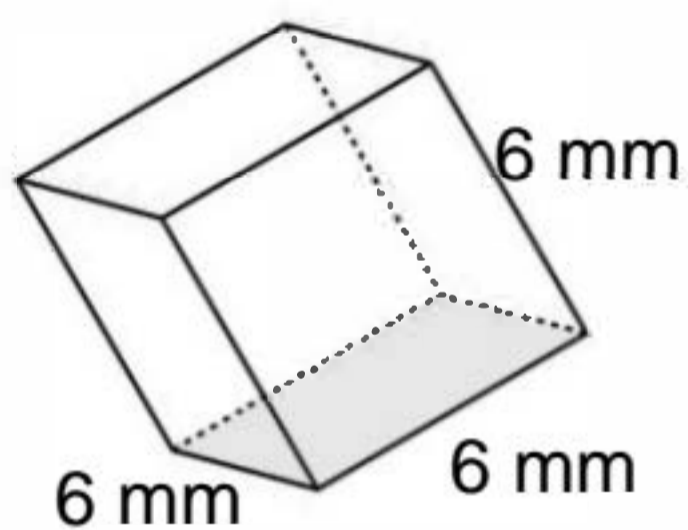
Surface Area: 216.00 mm<sup>2</sup>

3)



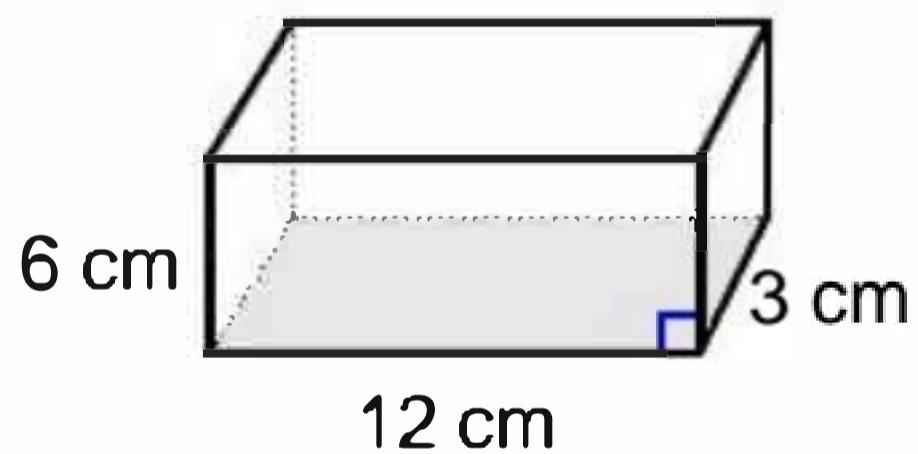
Surface Area: 96.00 cm<sup>2</sup>

4)



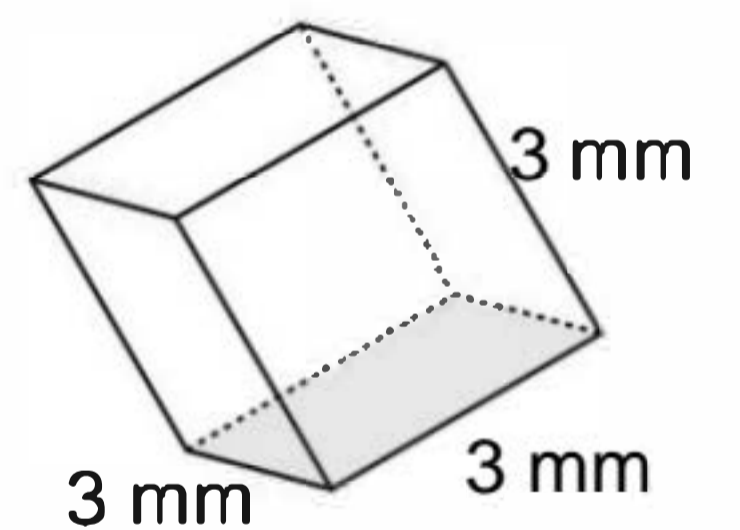
Surface Area: 216.00 mm<sup>2</sup>

5)



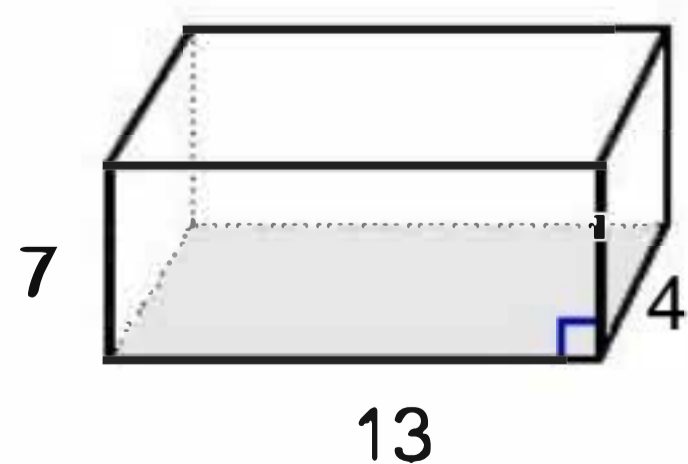
Surface Area: 252.00 cm<sup>2</sup>

6)



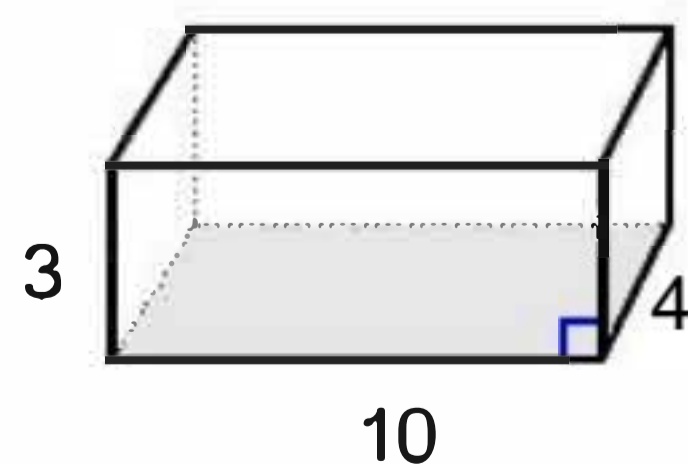
Surface Area: 54.00 mm<sup>2</sup>

7)



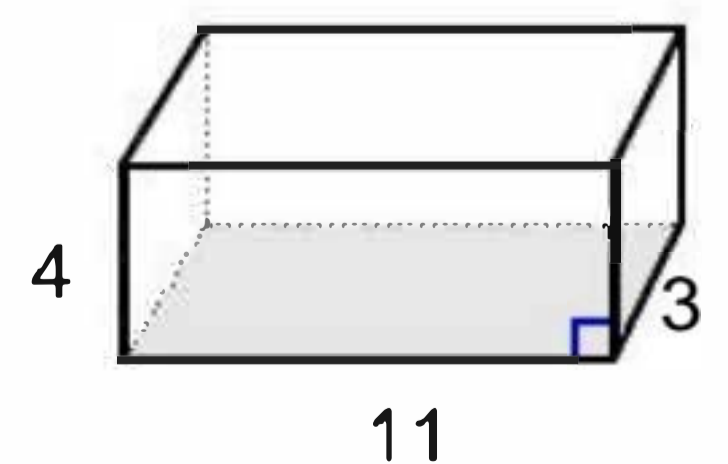
Surface Area: 342.00<sup>2</sup>

8)



Surface Area: 164.00<sup>2</sup>

9)



Surface Area: 178.00<sup>2</sup>

Name: \_\_\_\_\_

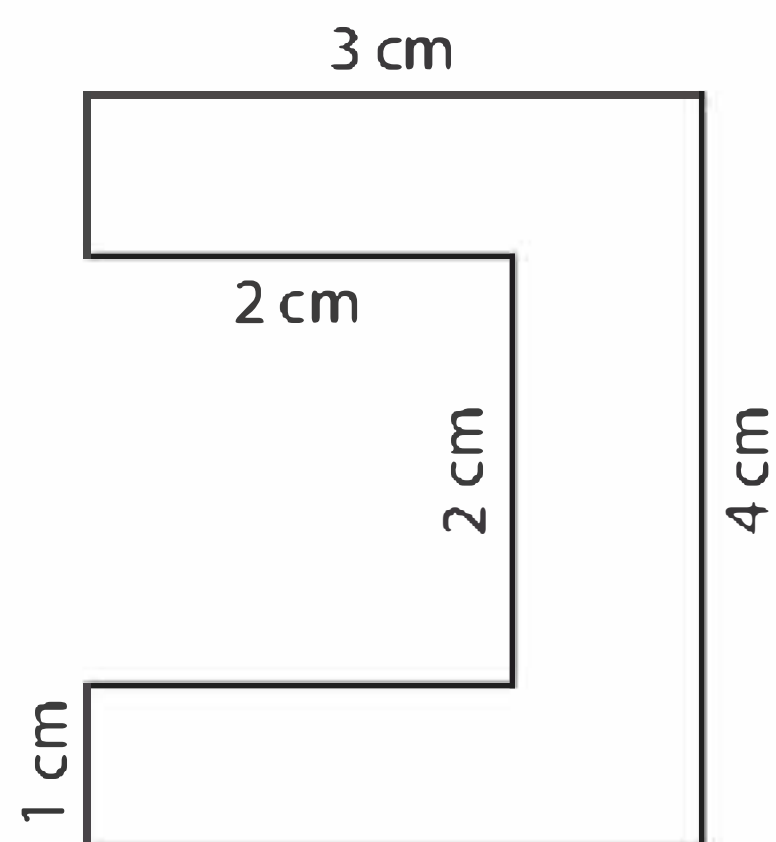
## Answer key

# Rectilinear Shapes

Sheet 3

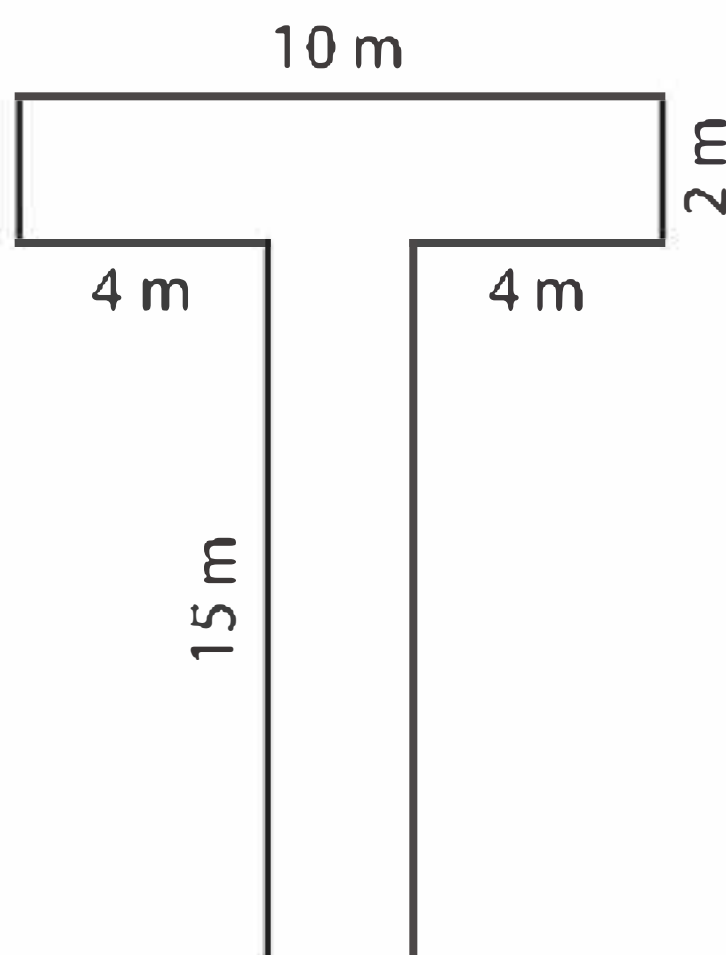
Find the perimeter of each shape.

1)



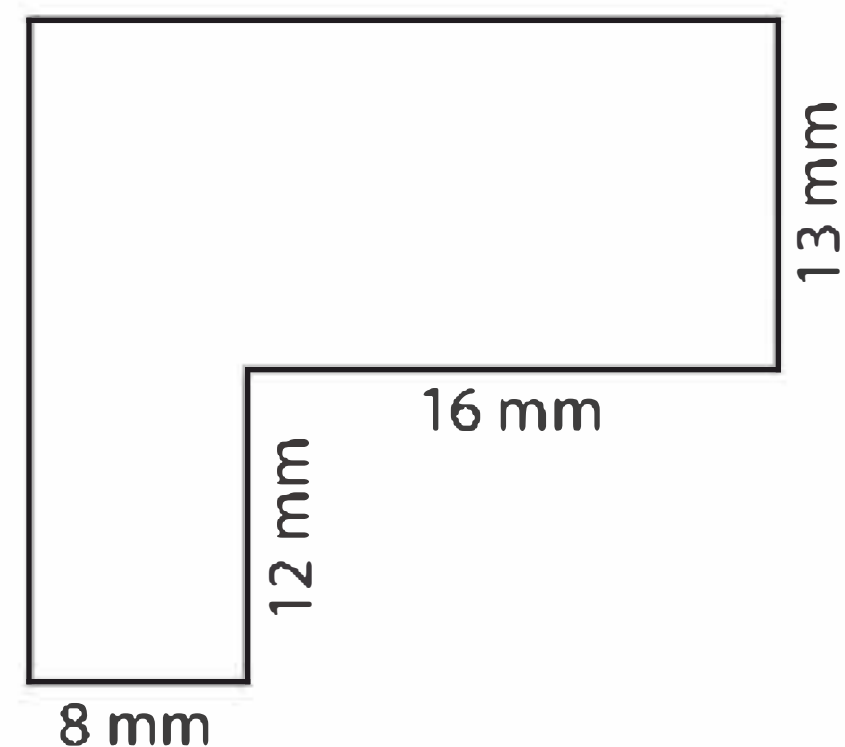
Perimeter = 18 cm

2)



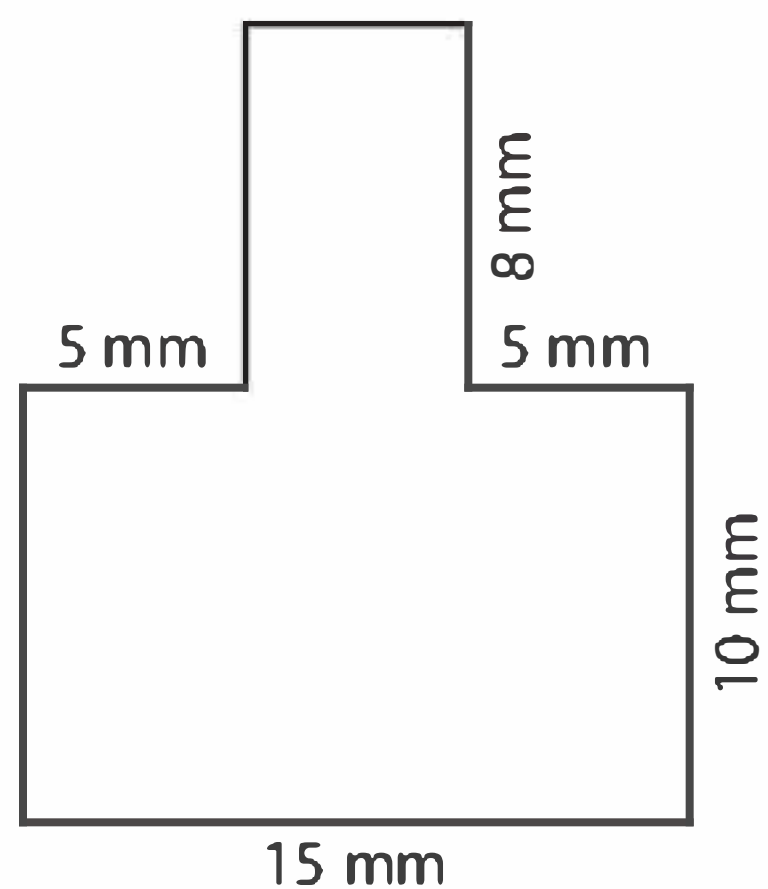
Perimeter = 54 m

3)



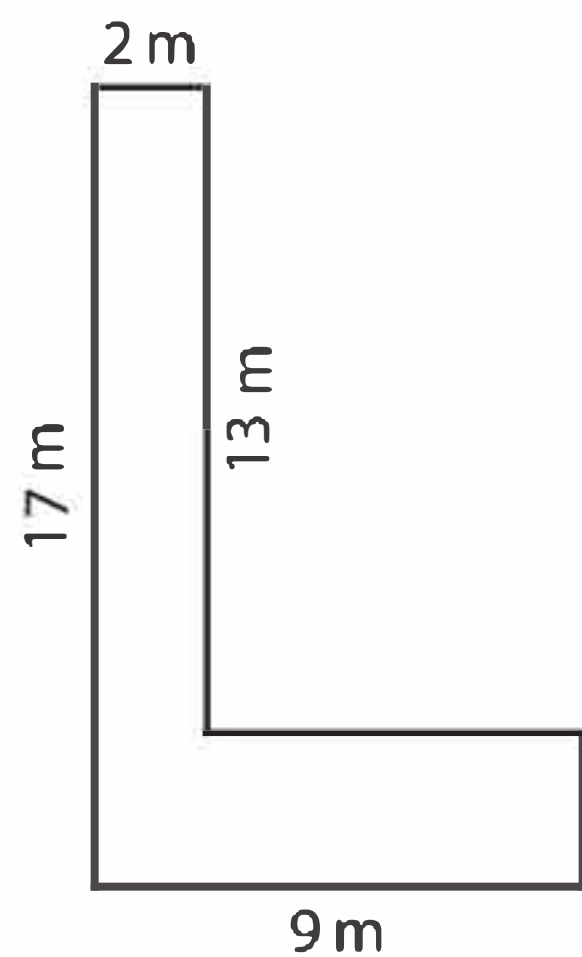
Perimeter = 98 mm

4)



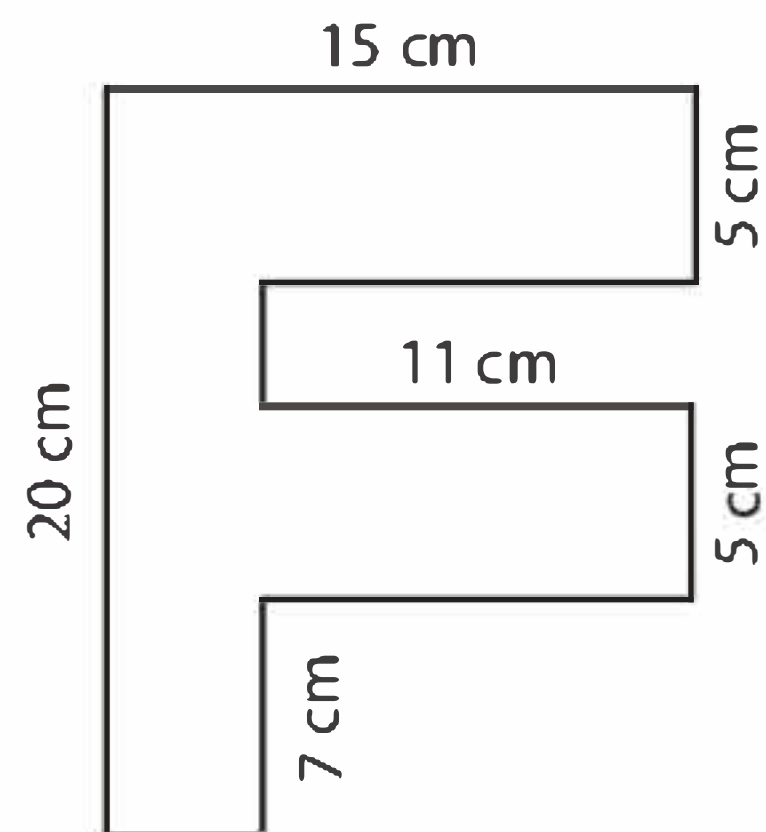
Perimeter = 66 mm

5)



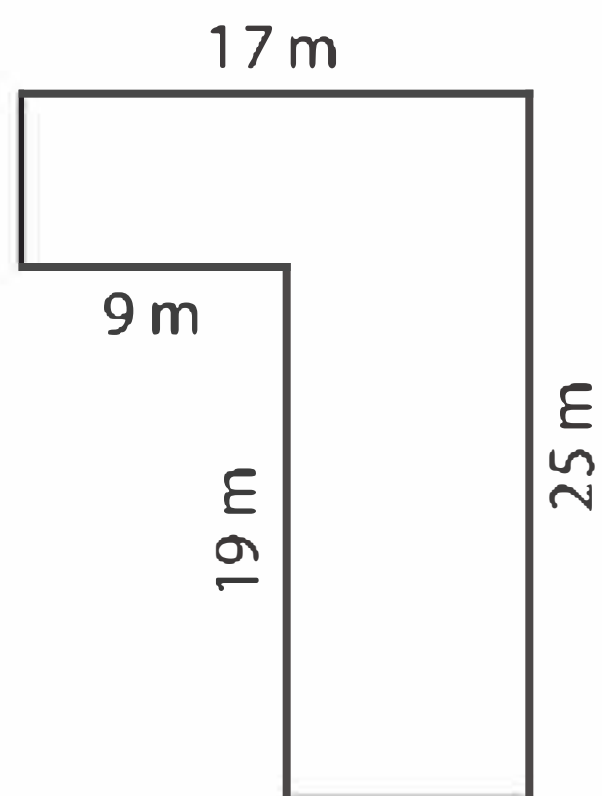
Perimeter = 52 m

6)



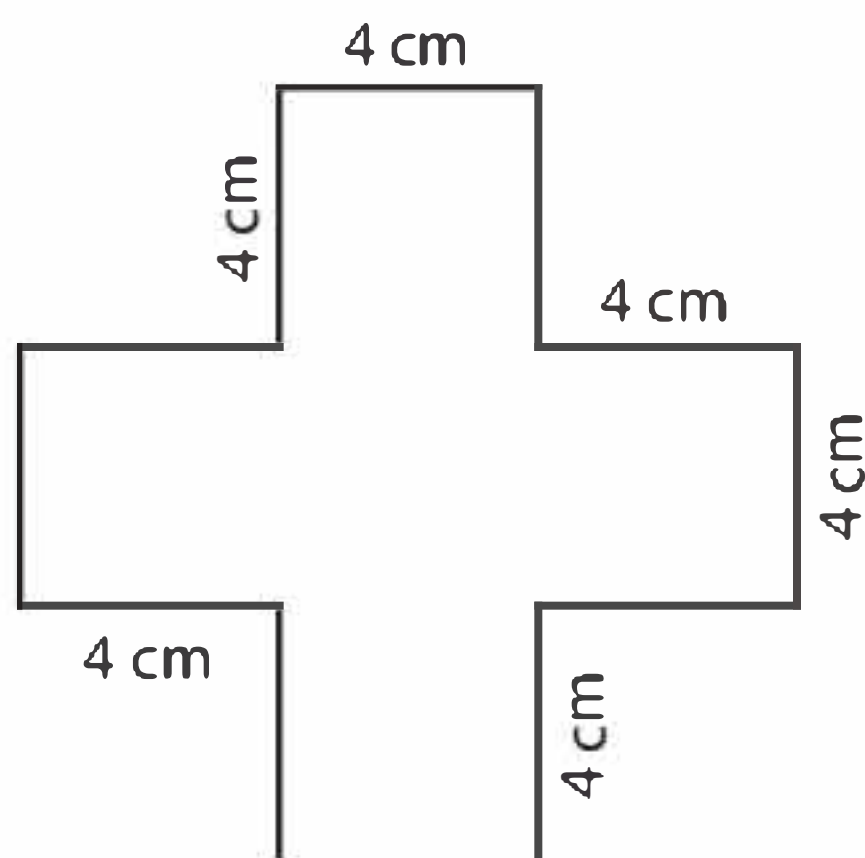
Perimeter = 92 cm

7)



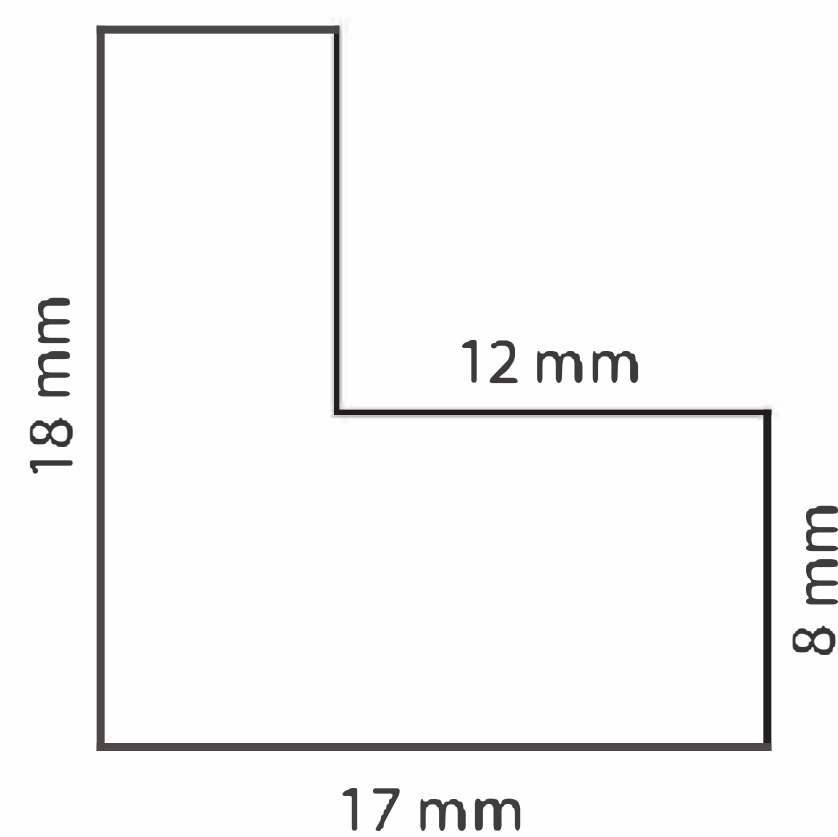
Perimeter = 84 m

8)



Perimeter = 48 cm

9)



Perimeter = 70 mm

## Test 1 - Pixar Animation Studios

Question	Answer	Explanation
1	D	Refer to line 3: 'Pixar began in 1979 as the computer division of Lucasfilm...'
2	B	Refer to lines 6-7: '...in 2006 it was bought by Disney for \$7.4 billion.'
3	C	Refer to lines 8-9: 'The company has produced 14 feature films, beginning with 'Toy Story' (1995).'
4	E	Refer to lines 13-15: 'Since the Academy Award for Best Animated Feature was created in 2001, most of Pixar's films have been nominated, with seven winning...'
5	B	Knowledge of vocabulary required. The word 'acclaimed' means publicly praised or celebrated. A synonym is a word that means the same as another word.
6	A	Refer to line 19: 'The Pixar mascot, an electric lamp called Luxo Jr.'
7	D	Refer to lines 23-24: '...a key part of the Pixar philosophy—that freedom is essential to creativity...'
8	D	Refer to line 26: '...the studios are open 24/7...' This means that the studio is open for 24 hours a day, 7 days a week.
9	A	Knowledge of vocabulary required. The word 'collaboration' means to work with someone to produce something. A synonym is a word that means the same as another word.
10	E	Refer to lines 38-40: '...Pixar's head, John Lasseter, and his team came up with the ideas for 'A Bug's Life', 'Finding Nemo', 'Monsters, Inc.' and 'WALL-E' at a single lunch meeting in 1994.'
11	E	Knowledge of vocabulary required. The word 'coveted' means to want something. An antonym is a word that means the opposite of another word. 'Scorned' means rejected or turned away.
12	B	Refer to lines 49-50: '...to create authentic visuals for some scenes in 'Finding Nemo', two members of the artistic team climbed inside a dead whale.'
13	B	Refer to lines 54-57: '...the making of 'Toy Story 2': the film was complete and almost ready for release when director John Lasseter... ordered a new plot, script and film to be developed from scratch! The reconfigured film was eventually released in 1999...'
14	C	Reader's logical inference required. Refer to lines 60-61: '...good working practice and pure love of film as the key to Pixar's continuing success.' From this it can be inferred that the writer feels that Pixar is an impressive company. The tone of the passage is generally positive. The awards the film has received would imply that it is <i>not</i> underrated.
15	B	Knowledge of grammar required. The words 'however', 'then' and 'consequently' are all conjunctions. A conjunction is a word that connects sentences or clauses.



**Q14 C**  
*compulsory*

**Q15 B**  
*deep*

**Antonyms: Select the Word Test 10**

---

- Q1 B**  
*keep*
- Q2 B**  
*lengthen*
- Q3 C**  
*false*
- Q4 C**  
*wrong*
- Q5 C**  
*artificial*
- Q6 D**  
*separate*
- Q7 D**  
*friend*
- Q8 B**  
*continue*
- Q9 C**  
*strengthen*
- Q10 E**  
*withdraw*
- Q11 B**  
*agree*
- Q12 A**  
*dubious*
- Q13 C**  
*ecstasy*
- Q14 D**  
*whole*
- Q15 A**  
*stale*

**Antonyms: Select the Word Test 11**

---

- Q1 A**  
*meagre*
- Q2 D**  
*active*
- Q3 B**  
*ordinary*
- Q4 A**  
*avoid*
- Q5 C**  
*barren*

**Q6 C**  
*truth*

**Q7 B**  
*sturdy*

**Q8 E**  
*frenzy*

**Q9 B**  
*frivolous*

**Q10 C**  
*placid*

**Q11 D**  
*understanding*

**Q12 A**  
*restrained*

**Q13 C**  
*interesting*

**Q14 E**  
*disorderly*

**Q15 B**  
*cheerful*

**Antonyms: Select the Word Test 12**

---

- Q1 B**  
*total*
- Q2 A**  
*fleeting*
- Q3 C**  
*safe*
- Q4 E**  
*destroy*
- Q5 C**  
*premature*
- Q6 C**  
*faulty*
- Q7 C**  
*dissuade*
- Q8 B**  
*continue*
- Q9 C**  
*accessible*
- Q10 B**  
*noisy*
- Q11 E**  
*agree*
- Q12 C**  
*bold*
- Q13 D**  
*stocky*



**Q14 C**  
*lacking*

**Q15 A**  
*mediocre*

**Q6 era**  
*(deliberately)*

**Q7 ect**  
*(defective)*

**Q8 las**

# Test 16 Rearrange the Words

---

- Q1** *There are countless stars in the sky.*
- Q2** *The blue car whizzed along the quiet road.*
- Q3** *The arsonist fled the scene of his crime.*
- Q4** *Several of my colleagues have decided to retire this year.*
- Q5** *It's becoming increasingly difficult to justify his actions.*
- Q6** *The politician had developed into a formidable adversary.*
- Q7** *My watch has stopped working because the battery has run out.*
- Q8** *Disease and famine have hindered the country's progress. OR Famine and disease have hindered the country's progress.*

## Test 33 Rearrange the Words

---

- Q1**    *The department store was struggling to attract shoppers.*
- Q2**    *The new policy will not come into effect until next year.*
- Q3**    *We would like to offer you a complimentary beverage.*
- Q4**    *The arrogant lawyer dismissed my valid concerns.*
- Q5**    *The king decided to endorse neither candidate.*
- Q6**    *The rhinoceros lowered his head to drink from the stream.*
- Q7**    *My mother was a very perceptive woman.*
- Q8**    *The toddlers were captivated by the magical clown.*

## Test 50 Rearrange the Words

---

- Q1** *The new facility will be used to conduct experiments.*
- Q2** *Many people in the world still live in great poverty.*
- Q3** *The determined army marched across the battlefield.*
- Q4** *The gardener planted some seeds in his allotment.*
- Q5** *Please do not proceed beyond this point.*
- Q6** *The manager set impossible goals for his team.*
- Q7** *His new proposal was met with unanimous approval.*
- Q8** *My damp clothes were left outside to dry.*

### Cloze Wordbank Test 5

---

- Q1 E**  
*behind*
- Q2 F**  
*forbidden*
- Q3 D**  
*upon*
- Q4 I**  
*demanded*
- Q5 J**  
*fascinating*
- Q6 C**  
*fairies*
- Q7 H**  
*understandably*
- Q8 A**  
*disbelieving*
- Q9 G**  
*camera*
- Q10 B**  
*depicted*

### Cloze Wordbank Test 6

---

- Q1 H**  
*powered*
- Q2 B**  
*leading*
- Q3 M**  
*designed*
- Q4 N**  
*break*
- Q5 E**  
*record*
- Q6 C**  
*attempt*
- Q7 J**  
*current*
- Q8 F**  
*extremely*
- Q9 G**  
*disintegrate*
- Q10 I**  
*heavy*

### Cloze Wordbank Test 7

---

- Q1 J**  
*built*
- Q2 G**  
*wood*

- Q3 H**  
*victory*
- Q4 C**  
*protecting*
- Q5 I**  
*kingdom*
- Q6 A**  
*frenzy*
- Q7 F**  
*continued*
- Q8 D**  
*structures*
- Q9 E**  
*permanent*
- Q10 B**  
*early*

### Cloze Wordbank Test 8

---

- Q1 A**  
*butterflies*
- Q2 J**  
*distinctive*
- Q3 I**  
*patterned*
- Q4 B**  
*migration*
- Q5 E**  
*northerly*
- Q6 G**  
*climates*
- Q7 D**  
*travelling*
- Q8 F**  
*journey*
- Q9 C**  
*second*
- Q10 H**  
*habitat*

### Cloze Wordbank Test 9

---

- Q1 D**  
*ceremonial*
- Q2 G**  
*acquired*
- Q3 I**  
*Queen*
- Q4 E**  
*toughened*
- Q5 J**  
*guarded*

4. B  
The shape at the front moves to the back.

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

### **Section 5 — Look at the Figure from the Right**

1. C  
There should be a 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 B and 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 up of four shorter lines inside an ellipse.

2. B  
All figures must have three grey 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 rings must be in front of the black rings.

## **ASSESSMENT TEST 10**

### **Section 1 — Complete the Series**

1. A  
In each series square, the white rectangle gets longer 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 wavy shape alternates between white and grey.

N4QDE1

2. C  
There should be a white cube on the left-hand side of the figure, at the front, which rules out options A, B and 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 B and D. The grey cube should have one of its faces touching the long white block, which rules out option C.

3. B  
In each series square, a shape is added to another corner of the square. The shading of the small inner circles alternates between grey 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 up one place in each series square. When they reach the top, they start again at the bottom.

### **Section 2 — Reflect the Figure**

1. A  
In option B, the large black shape has not been reflected. Option C is a 180 degree rotation. In option D, the ellipses have not been reflected.

2. D  
Option A has two squares on the right-hand scale. In option B, the scales are at the wrong angle. Option C has not been reflected and the squares have swapped shadings.

3. D  
Options A and C are the wrong shape. Option B is a downwards reflection.

4. B  
Option A is a 45 degree anticlockwise rotation. Option C has 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 D is a 180 degree rotation.

### **Section 3 — Complete the Pair**

1. C  
The hatching inside the large shape rotates 90 degrees.

2. A  
The shape inside the triangle swaps 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.

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## **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 shapes on the left and right of the figure must have four sides.

3. A