BROAD HORIZON
TUITION CENTRE

11+ Tuition – Year 5

Week 14 - Online

ANSWERS

Date:

Starter Task – Quick Revision

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

2. Workout $\frac{4}{9}$ of 270

120

3. Workout $\frac{3}{7}$ of 357

153

4. $(3^2 + 10 - 2) \times (4 + 6 - 2^3)$

34

5. Convert 0.45 into a percentage

45%

6. What is the median of 8, 4, 17, 2, 7 and 11

7.5

7. 4.5 ÷ 1000 =

0.0045

8. What is 648 × 7 =

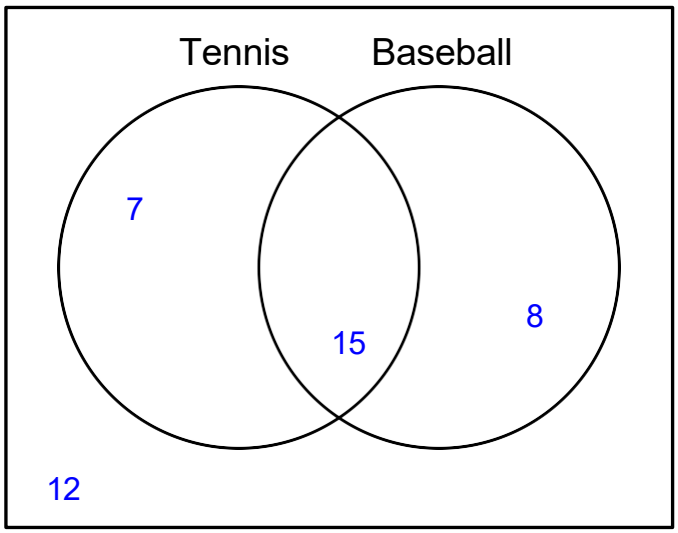
4536

9. What is 35% of 220 **77**

Name : _____ Score : _____

Teacher : _____ Date : _____

Answer the Questions Based on the Venn Diagram



1) How many students do not like Baseball ? 19

2) How many students do not like either Tennis or Baseball ? 12

3) How many students like both Tennis and Baseball ? 15

4) How many students only like Tennis ? 7

5) How many students only like Baseball ? 8

6) How many students like Tennis ? 22

7) How many students do not like both Tennis and Baseball ? 27

8) How many students like Tennis or Baseball ? 30

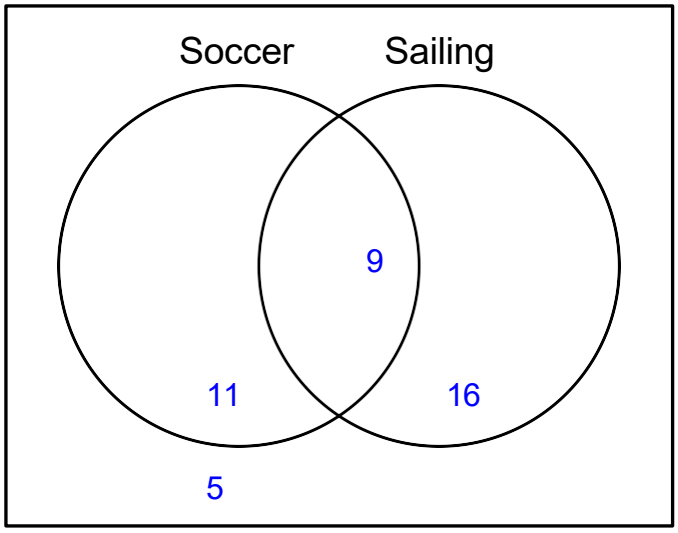
9) How many students like Baseball ? 23

10) How many students do not like Tennis ? 20

Name : _____ Score : _____

Teacher : _____ Date : _____

Answer the Questions Based on the Venn Diagram



1) How many students like Soccer ? 20

2) How many students do not like Sailing ? 16

3) How many students only like Sailing ? 16

4) How many students do not like both Soccer and Sailing ? 32

5) How many students only like Soccer ? 11

6) How many students like Sailing ? 25

7) How many students do not like Soccer ? 21

8) How many students do not like either Soccer or Sailing ? 5

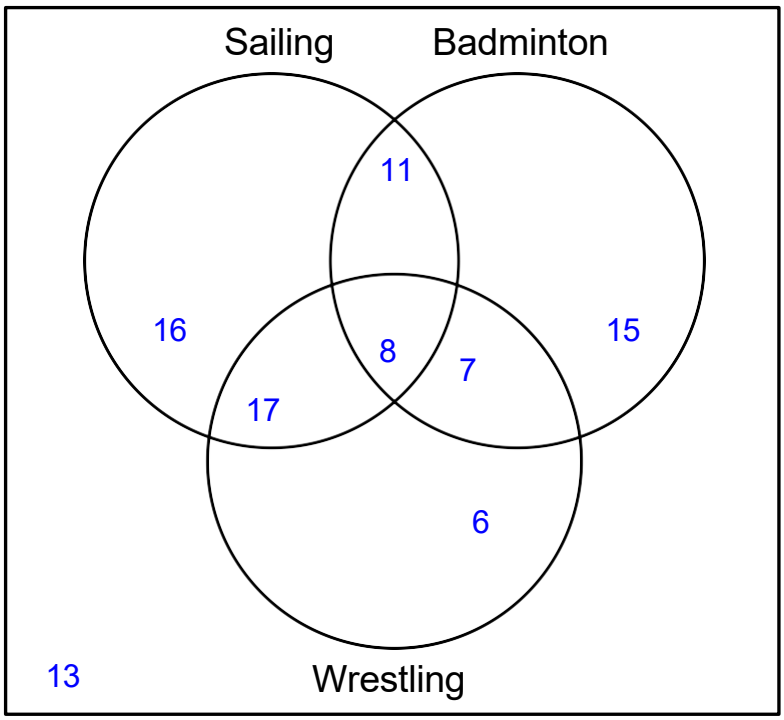
9) How many students like Soccer or Sailing ? 36

10) How many students like both Soccer and Sailing ? 9

Name : _____ Score : _____

Teacher : _____ Date : _____

Answer the Questions Based on the Venn Diagram



1) How many students like Sailing or Badminton or Wrestling ? 80

2) How many students like both Sailing and Wrestling ? 25

3) How many students like Badminton or Wrestling but not Sailing ? 28

4) How many students like both Badminton and Wrestling ? 15

5) How many students do not like both Sailing and Badminton ? 74

6) How many students do not like either Sailing or Badminton ? 19

7) How many students do not like either Sailing or Wrestling ? 28

8) How many students like Sailing or Badminton but not Wrestling ? 42

9) How many students like both Badminton and Wrestling but not Sailing ? 7

10) How many students like both Sailing and Badminton ? 19

Name: _____ **Answer key** Score: _____

Pictograph - Jam Factory

Teddy's Food Factory exports bottles of Jam. The pictograph shows the number of bottles exported each day. Use the information from the graph to answer the questions.

Jam Bottles Exported	
Day	**Number of Jam Bottles**
Monday	i)•- i)•- i)IIJIt i)IIJIt i)IIJIt Jam Ja
Tuesday	Jam Jam i)IIIIt Jam
Wednesday	Jam Jam i)IIIIt i)IIIIt i)IIIIt Jam
Thursday	Jam i)IIJIt i)IIJIt Ja
Friday	Jam Jam i)•- i)IIJIt i)IIJIt Jam i)•- i)IIJIt

Key

i)-- = 600 Jam Bottles

1) Which of the two days did they export fewer bottles of jam? **Tuesday and Thursday**

2) How many key images would represent 6600 bottles of jam? **11**

3) How many more bottles of jam were exported on Friday than Monday? **900**

4) How many bottles of jam were exported on Wednesday and Thursday altogether? **6 300**

S) How many bottles did Teddy's Food Factory export each week? **17 400**

Name: _____ Score: _____

Answer Key

Weekend Sale

Sheet 1

Lisa is a small-time entrepreneur; she sells burger, pizza, hot dog and fried chicken.
The tally chart shows how many of each kind were sold during the weekends.
Use the information from the tally chart to answer the questions.

Food lteW\S	Tally Marks
 Burger	𝍸 𝍸 𝍸 \
 Pizza	𝍸 𝍸 𝍸 𝍸 \\\\
 Fried Chicken	𝍸 𝍸 \\
 Hot Dog	𝍸 \\\

1) How many burgers were sold? **16**

2) Which item was sold the most? **pizza**

3) How many more fried chickens were sold than hot dogs? _ _ _ _ _ **4** _ _ _ _ _

4) Which item was sold the least? **hotdog**

S) How many items were sold in all? **60**

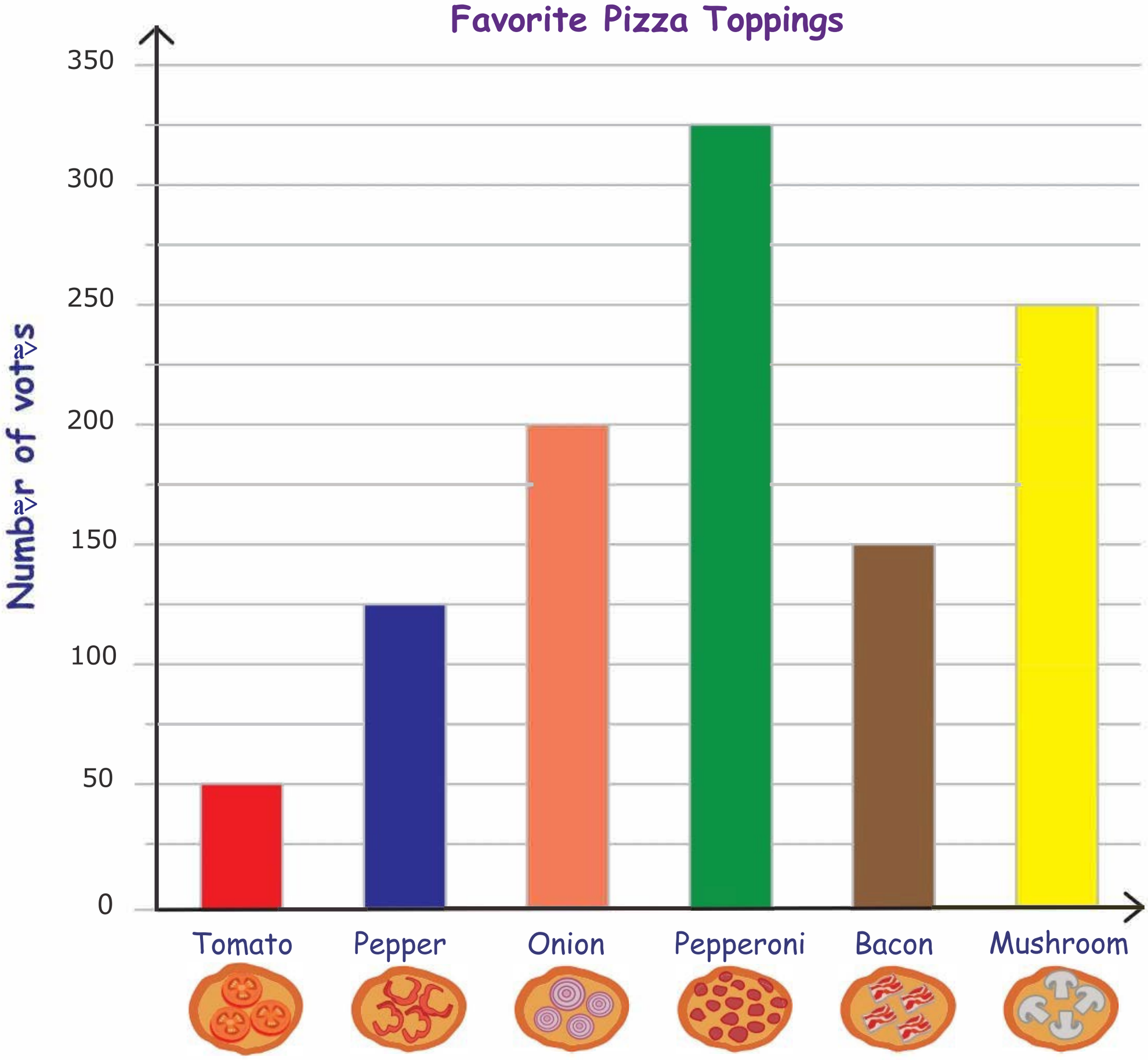
Name: _____ Score: _____

Answer Key

Sheet 1

Bar Grapli- Pizza Toppings

Good Time Pizza Makers are best in making pizzas with six different toppings. They took a survey about customers'favorite toppings and recorded the results in a bar graph. Use the bar graph to answer the questions.



1) Which is the most popular topping? **Pepperoni**

2) How many customers have chosen either tomato or pepper toppings? **175**

3) If 75 more customers prefer bacon, which one will top the chart, bacon or onion? **Bacon**

4) Which topping has 250 votes? **Mushroom**

5) List the toppings in order from most popular to least popular.

Pepperoni, Mushroom, Onion, Bacon, Pepper and Tomato

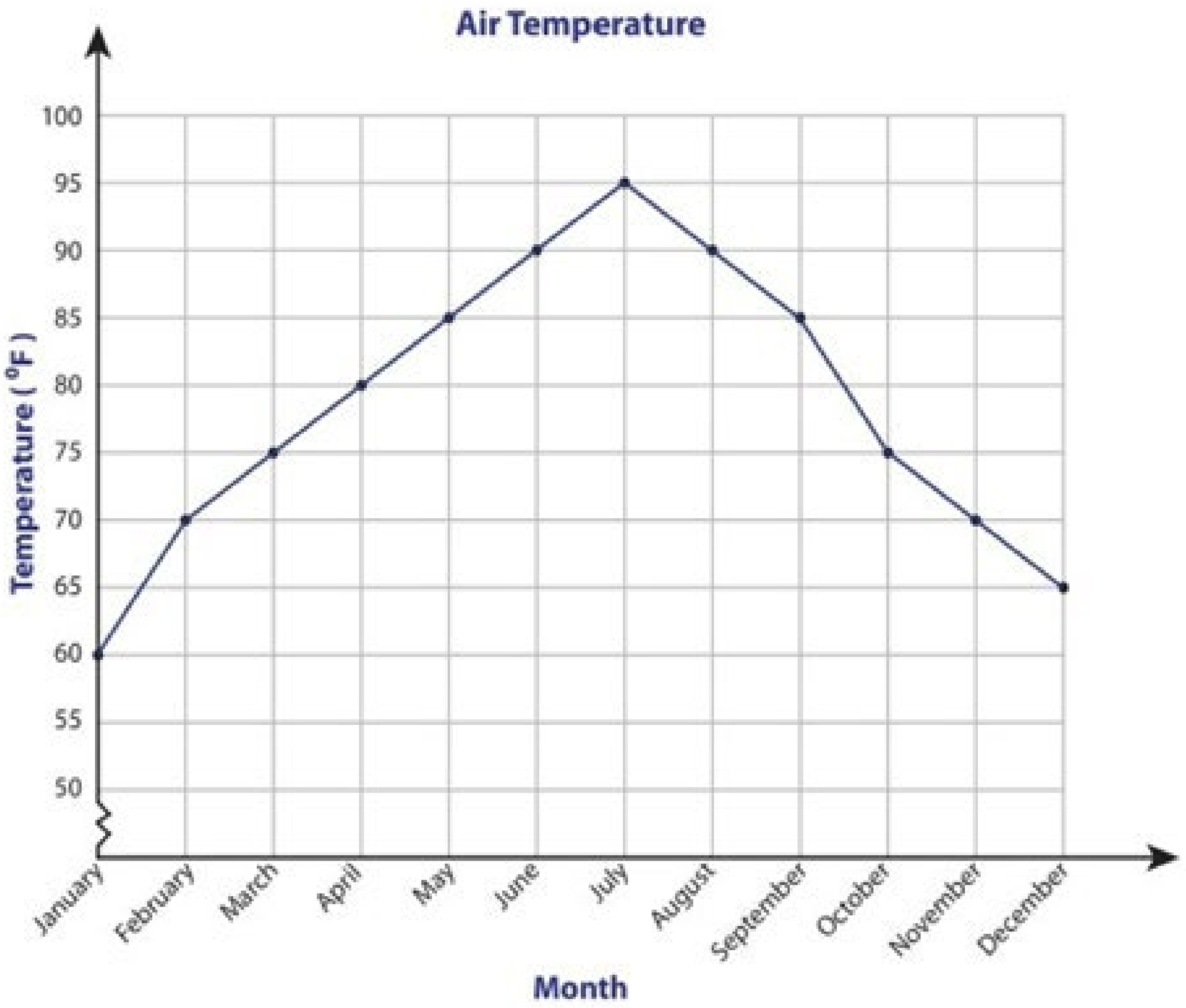
Name: _____ Score: _____

Answer Key

Hard: S1

Line Graph - Air Temperature

David, a meteorologist recorded the variations in air temperature (in °F) throughout the year. He made a line graph displaying the recorded information. Read the graph and answer the questions.



1) What is the highest recorded temperature? **95°F**

2) Where do you see a raise of 10°F in the graph? **January-February**

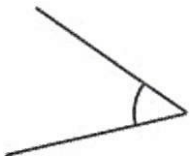
3) Which is the coldest month? **January**

4) Which month recorded 80°F? **April**

5) What is the temperature recorded in the month of December? **65°F**

Types of Angles - Practice

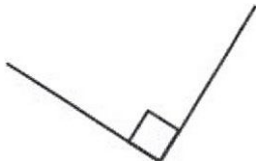
Write the type of angle:

1. 

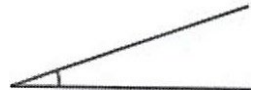
Acute

2. 

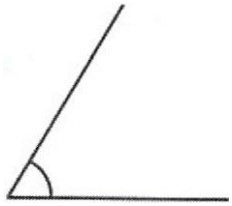
Obtuse

3. 

Right

4. 

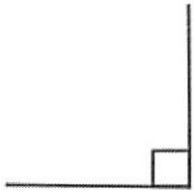
Acute

5. 

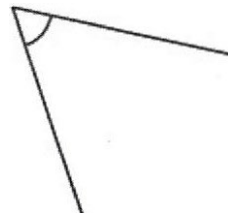
Acute

6. 

Obtuse

7. 

Right

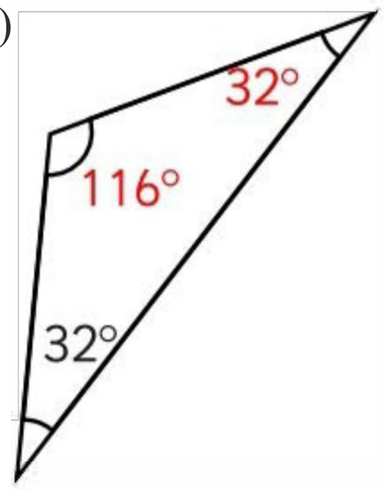
8. 

Acute

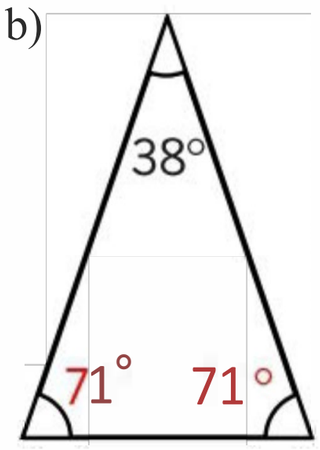
Missing Angles in Isosceles Triangles - Answers

Calculate the missing angles in these Isosceles triangles.

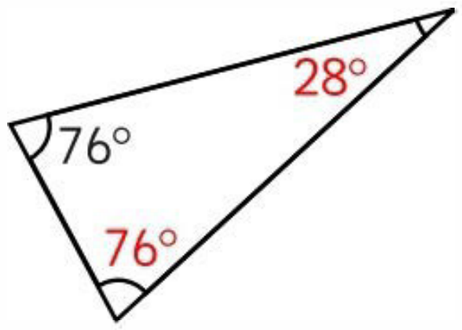
a)



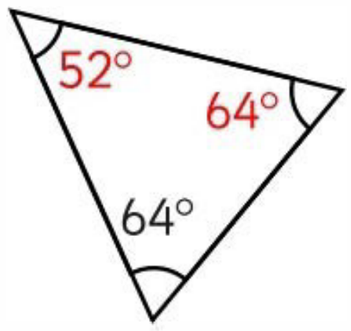
b)



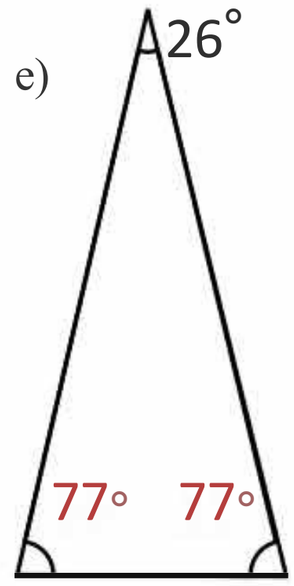
c)



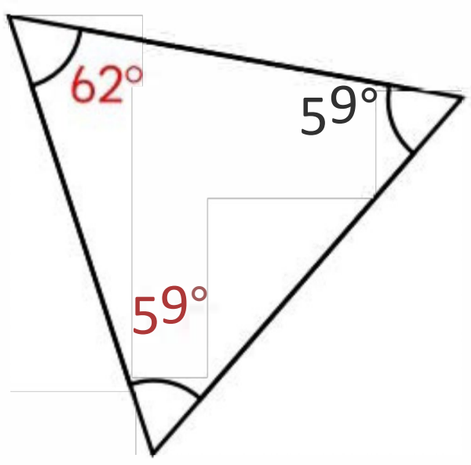
d)



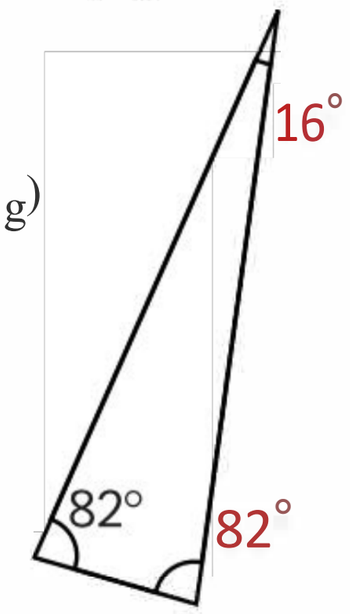
e)



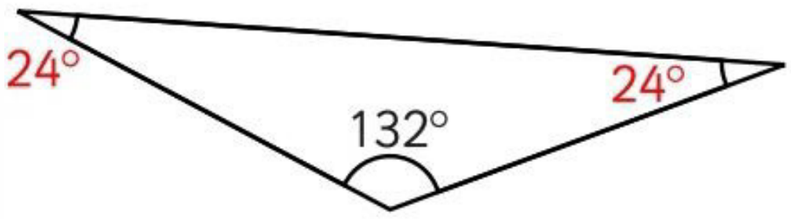
f)



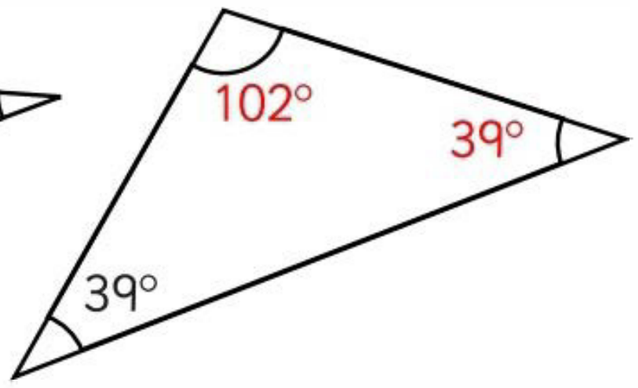
g)



n)

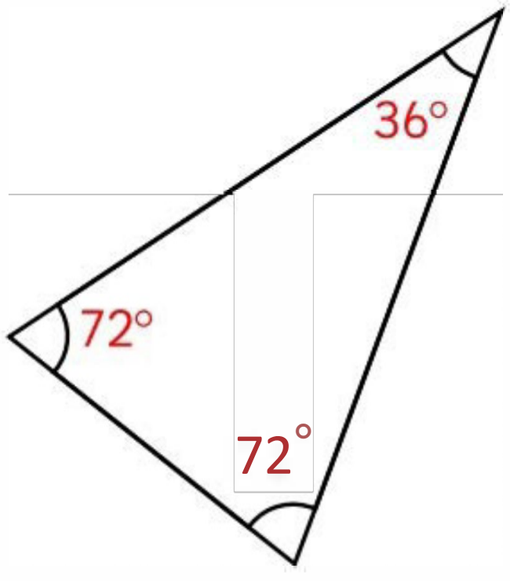


i)

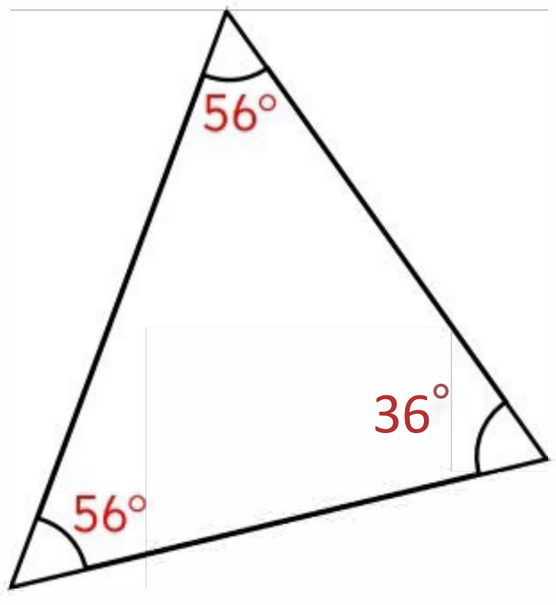


Estimate th.e missing angles in th.ese Isosceles triangles. Ensure th.e sum ***of*** all th.e angles is correct. Measure th.e angles wh.en ◆ou h.ave finish.ed to ch.ecR h.ow accurate ◆our estimations were.

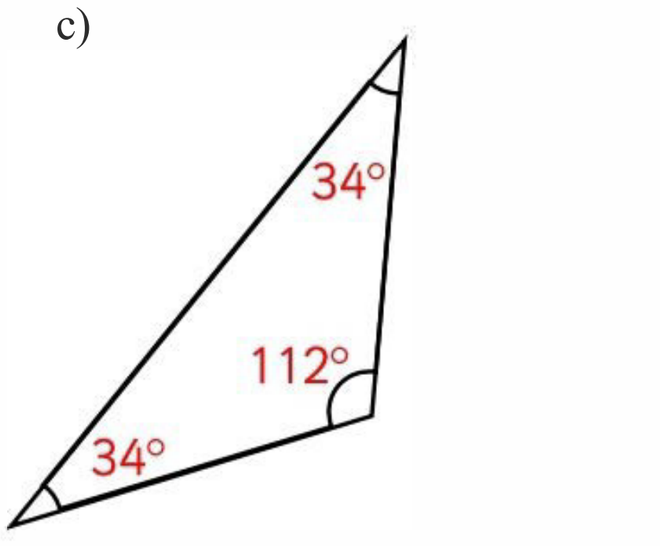
a)



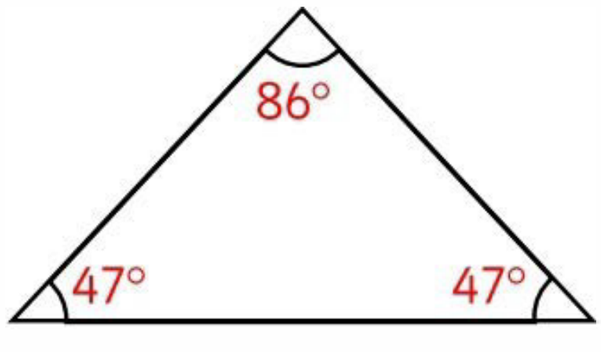
b)



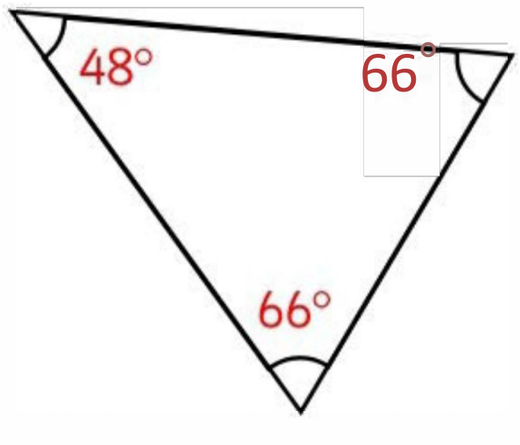
c)



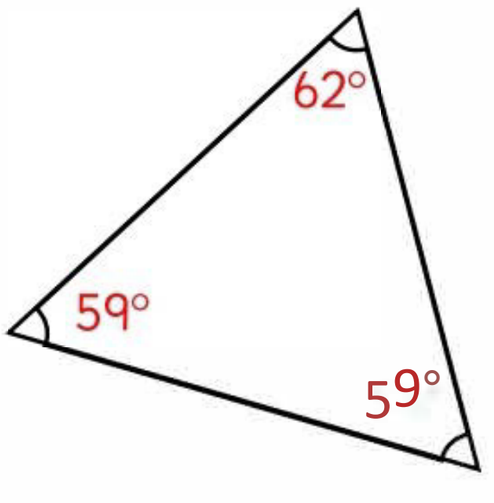
d)



e)



f)



Name: _____

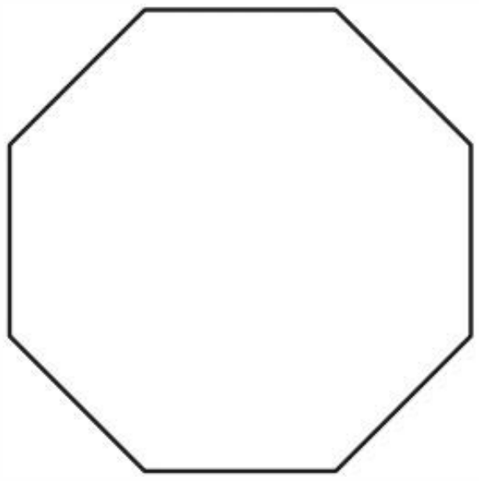
Answer key

Sum of Interior Angles

ES1

Find the sum of the interior angles of each polygon.

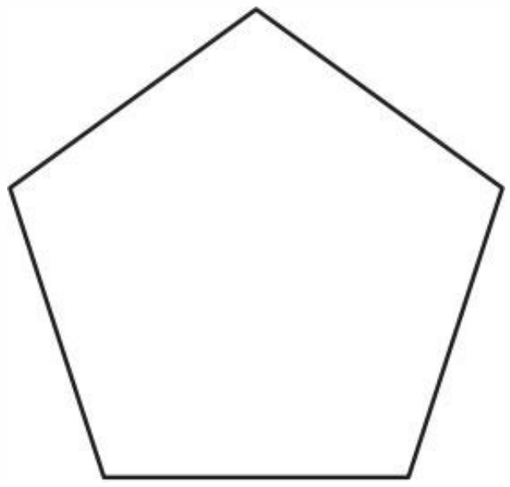
1)



Number of sides= **8**

Sum of the interior angles= **1080°**

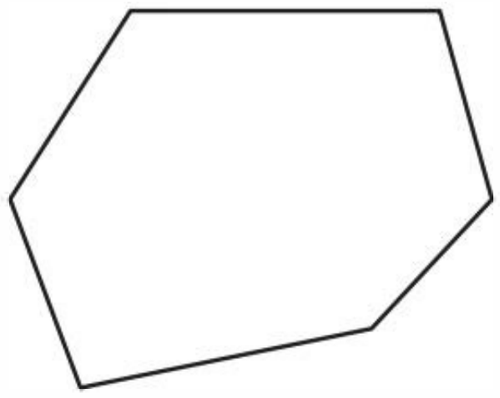
2)



Number of sides= **5**

Sum of the interior angles= **540°**

3)



Number of sides= **6**

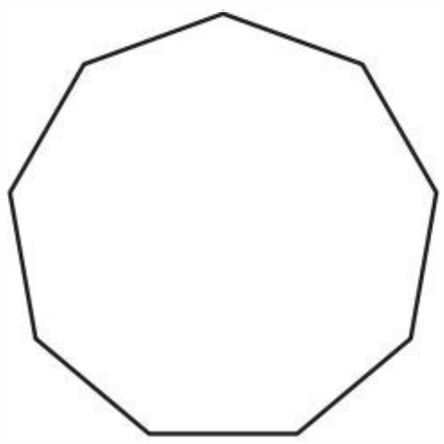
Sum of the interior angles= **720°**

4)

Number of sides= **4**

Sum of the interior angles= **360°**

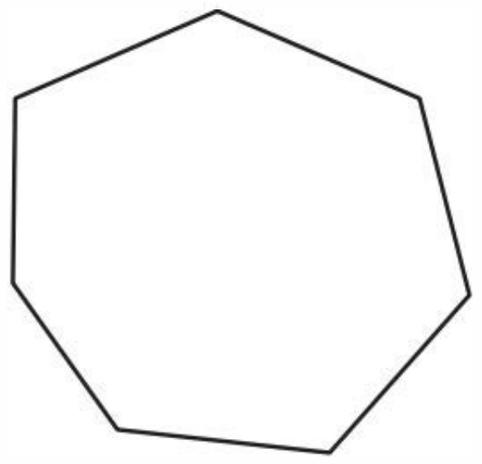
5)



Number of sides= **9**

Sum of the interior angles= **1260°**

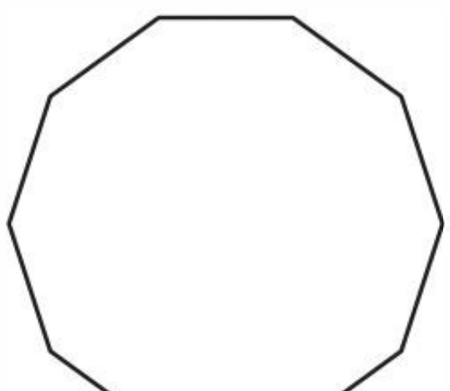
6)



Number of sides= **7**

Sum of the interior angles= **900°**

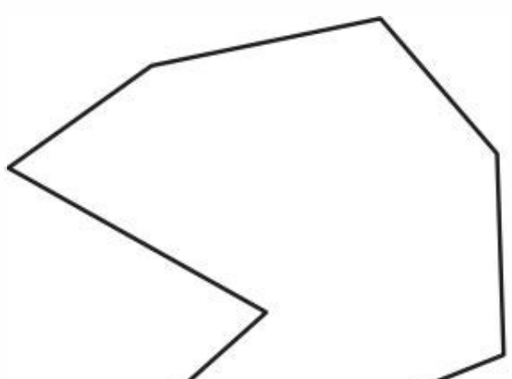
7)



Number of sides= **10**

Sum of the interior angles= **1440°**

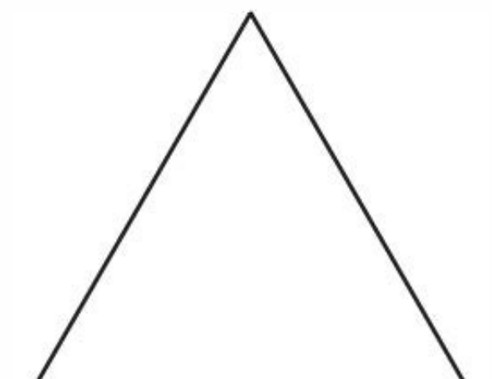
8)



Number of sides= **8**

Sum of the interior angles= **1080°**

9)



Number of sides= **3**

Sum of the interior angles= **18**

TYPE TWENTY:

row
sit
age
all
art
rod
ram
eat
hem
dab
her
ark
ask
fir
eel
tea
him
and
kin
too

TYPE TWENTY-ONE:

TOPDEGTHR
KTPTLPB
DYWB

ASSESSMENT TEST 5

Section 1 - Complete the Square Grid

1. B

Moving from left to right, the hatching of the shape rotates 45 degrees clockwise.

2. D

Moving from left to right, theshape rotates 90 degrees anticlockwise ineach grid square.

3. C

Thethird grid square ineach row is made upof the figure in the first grid squareon topof thefigure in the middle grid square.

4. B

Each shapeonlyappears once ineach rowandcolumn.

5. A

Working from topto bottom, thecircles are in thesameposition ineach grid square. Working from left to right, thearrows are in thesame position andorientation ineach grid square.

6. B

Ineach row, the right-hand grid square is formed by combining theshape from the left-hand grid square with theshading from thecircle inthecentral grid square.

7. C

Working from topto bottom, thesquare ineach grid squaregains anextra line.

8. A

Working from right to left,one section of theshape is removed ineach grid square, going ina clockwise direction. The shape changes colour from white to grey and then back to white.

Section 2-Find the Figure Like the First Two

1. C

All figures must havea triangle overlapping a circle.

2. B

All figures must have six sides.

3. C

All figures must havea white rectangle infront ofa black rectangle.

4. B

All figures must be identical apart from rotation.

5. D

Ineach figure, the larger shape must have one more side than thesmaller shape.

6. D

All figures must have two parallel lines crossing a single longer line.

7. B

All figures must havea dashed line between two shapes of thesamecolour. (Or they must all have adashed lineand a triangle.)

8. B

All figures must haveagrey shape in front of a whiteshape.

Section 3 - Complete the Pair

1. E

Thecircles change position, but keep thesame shading.

2. B

The figure rotates 90 degrees anticlockwise.

3. E

The shape changes intoanother shape withthesame number of sides.

4. D

The figure rotates 180 degrees.

5. A

Thecircleand thearrowheads rotate 45 degrees anticlockwise.

6. F

The large shape splits in half and becomes thesame colour as thecircle.

7. E

Theblack shape becomes larger and moves to thecentre. The white shape gets smaller and moves to thetop-left of the black shape.

8. B

Thegrey shape reflects onto the black shape.

Section 4 - Rotate the Figure

1. D

The figure is rotated 270 degrees clockwise (or 90 degrees anticlockwise). Option Aisa reflection. In option B, the shadings of thecircleand the square have swapped. OptionChas anextra lineacross themiddle.

2. C

The figure is rotated 225 degrees clockwise (or 135 degrees anticlockwise). Options Aand Dare the wrong shape. Option Bisa reflected rotation.

3. A

The figure is rotated 270 degrees clockwise (or 90 degrees anticlockwise). Options Band Darethe wrong shape. Option Cisa reflected rotation.

4. C

The figure is rotated 225 degrees clockwise (or 135 degrees anticlockwise). Inoption A, theshading of thecircles is wrong. Option Bisa reflected rotation. Option Dhas too many circles.

5. B

The figure is rotated 45 degrees clockwise. Options A and Care the wrong shape. Option Disareflected rotation.

6. D

The figure is rotated 135 degrees clockwise. In option A, the pentagon is positioned incorrectly. Option B has a small square instead of a pentagon. Option C is a reflected rotation.

7. B

The figure is rotated 270 degrees clockwise (or 90 degrees anticlockwise). In option A, the shadings of the circles have swapped and there is no small square. Option C is a reflected rotation and both circles are shaded black. In option D, the parallel lines are positioned Incorrectly.

8. C

The figure is rotated 225 degrees clockwise (or 135 degrees anticlockwise). Option A is a reflected rotation. Option B has the wrong number of points on the star. In option D, the star is behind the arch instead of in front of it.

9. C

The figure is rotated 135 degrees clockwise. Option A is a reflected rotation. In option B, the arrow is positioned incorrectly. Option D is a reflection.

10. D

The figure is rotated 225 degrees clockwise (or 135 degrees anticlockwise). Options A and C are the wrong shape. Option B is a reflected rotation.

Section 5 - Complete the Series

1. D

The series alternates between the first two figures.

2. A

The entire contents of the series square rotates 45 degrees clockwise.

3. D

The number of 'arms' changes in the sequence: three, four, five, four, three. The shading of the circles alternates between grey and white.

4. C

In each series square, the missing side of the inner hexagon moves anticlockwise. The shading of the smallest hexagon alternates between black and white.

5. E

The entire contents of the series square rotates 90 degrees clockwise.

6. E

The sequence of the number of sides of each shape goes: three, four, five, four, three. The hatching alternates between horizontal and vertical.

7. E

Each series square is reflected across and the black shading moves up into the next triangle.

8. B

In each series square, one more arrow rotates so it is pointing diagonally up to the le .

9. D

In each series square, there is one more star. The number of squares alternates between two and one.

10. D

In each series square, the circle gets bigger and the square gets smaller. Each shape alternates between grey and white.

ASSESSMENT TEST 6

Section 1 - Changing Bugs

1. B

The shapes of the bug's body segments each gain an extra side.

2. A

Two stripes are added to the bug's body.

3. C

The bug's body rotates 60 degrees clockwise.

4. D

The whole bug reflects across and the shading of its base changes from white to black.

5. B

The bug's body becomes shaded as quarters and the legs reflect downwards.

6. A

The inner dotted shape on the bug's body becomes the solid outer shape and the solid outer shape becomes the inner dotted shape.

7. C

The bug's body loses a black circle and the antennae each reflect across.

8. D

All the shading on the bug's body moves down one segment. The shading at the bottom starts again from the top. The shapes at the ends of the bug's antennae change from circles to squares.

9. B

The shape of the bug's body becomes the shape of each of the bug's wings and the shape of the bug's wings becomes the shape of the bug's body. The tail reflects downwards.

10. C

The bug's body segments rotate 45 degrees and the middle segment moves below the top and bottom segments.

Section 2 - Complete the Hexagonal Grid

1. D

The hexagons on opposite sides of the hexagonal grid are identical.

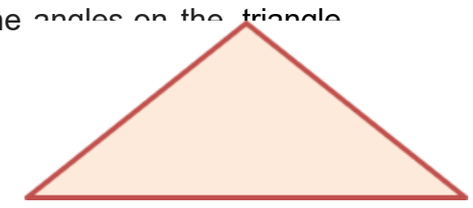
2. B

Going in a clockwise direction from the top hexagon, the level of grey shading in the raindrop increases in each outer hexagon.

3. B

Going in a clockwise direction from the top hexagon, the arrow rotates 60 degrees anticlockwise in each outer hexagon.

1. If a triangle has two angles of 34 and 47 degrees, what is the 3rd angle?
   You may want to draw the angles on the triangle



   99

2. Two angles in an isosceles triangle are both 40 degrees each. What is the 3rd angle?

   100

3. In a 7-sided shape, what is the total of the interior angles?

   900

4. What do the angles in the centre of an eight sided shape add up to?

   360

5. What is the size of one angle in a 6-sided shape?

   120

6. If you only know the total interior angles in an **irregular** 5-sided shape, **why** can you not work out 1 of the angles?

   All Angles are not equal

7. Convert $\frac{9}{15}$ into a percentage

   60%

8. What is the mean of 4, 7, 2 and 13

   6.5

9. What is the HCF of 36 and 48?

   12

10. $(3 \times 4)^2 - 10 \times 5 + 2$