1. If x = 5, what is x + 8?

2. Solve for x: x + 3 = 9

3. 1, 5, 13, 29, 61, ____, ____, _____

   What is the pattern?

4. What is the Greatest Common Factor (GCF) of 24 and 30?

5. $\frac{5}{8} + \frac{3}{4} =$

6. Choose the best description for these angles.

adjacent *obtuse* *acute* *right*

7. I have four packages to ship with the following weights:

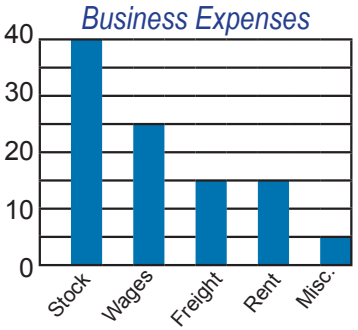
   2.84 kg 3.65 kg 7.55 kg 5.74 kg

   What is the total weight of my packages?

8. Simplify the ratio using seconds.

   3 seconds : 4 minutes

9. Match the labels of the circle graph using the information from the bar graph.



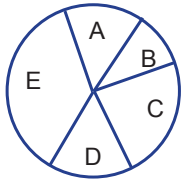
A = _____

B = _____

C = _____

D = Rent

E = _____



10. Write as an expression:

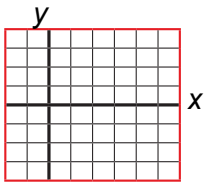
    the age my cat will be three years from now

11. $\frac{1}{2} \cdot \frac{-3}{4} =$

12. This is a calculator display of an answer. Why is the last digit a 7?

    5.666666667

13. Sketch the graph for the equation x = 5.

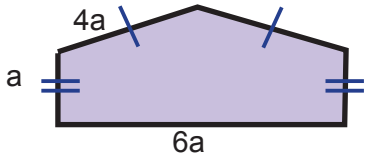


14. 12 ÷ 3 + 4 • 6 =

15 It is _____ that Tuesday will be the day after Monday next week.

certain *likely* *equally likely* *unlikely* *impossible*

16 Write a formula for the perimeter of this shape.



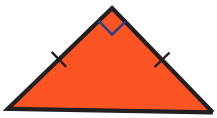
17 $\frac{2}{3}$ = _____% = 0._____

18 Which two names fit this triangle?

scalene *isosceles*

equilateral *right*

Why?



19 Expand: 4(a + 4)

20 Express the sentence as an equation.

65 is the same as 60 more than 8 times a number.

21 Which property makes this true?

48 + 75 + 22 = 48 + 22 + 75

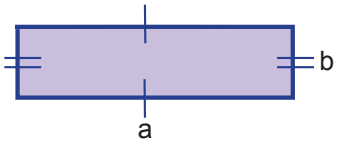
associative commutative distributive

22 $\frac{9}{10} - \frac{3}{12} =$

23 Which of these proportions is true? How do you know?

a) 30 : 4 = 4 : 5 b) $\frac{10}{40} = \frac{30}{120}$

24 Write a formula for the area of this shape.



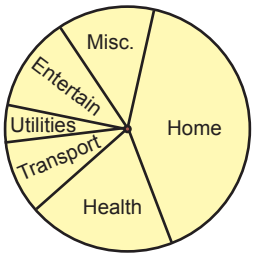
25 $10^3 \cdot 10^4 = 10^x$

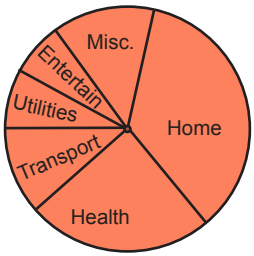
26 a) What is the supplement to a 65° angle?
b) What is its complement?

27 The Polygon family made a budget to estimate their expenses. During 2013 they recorded their actual expenses. In which area did they spend more than they budgeted?

2013 Polygon Family

BUDGET ACTUAL SPENDING





1. If a = 11, what is a − 5?

2. 4 710 is divisible by which of the following:

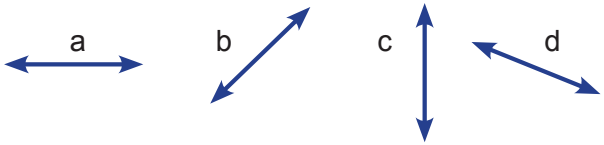
   2, 3, 4, 5, 6, 8, 9, 10

3. Complete the pattern.

   2, 3, 5, 9, 17, ____, ____, ____

4. $\frac{1}{6} \div \frac{2}{7} =$

5. a) Which line is vertical?
   b) Which line is horizontal?
   c) Which line is perpendicular to *a*?

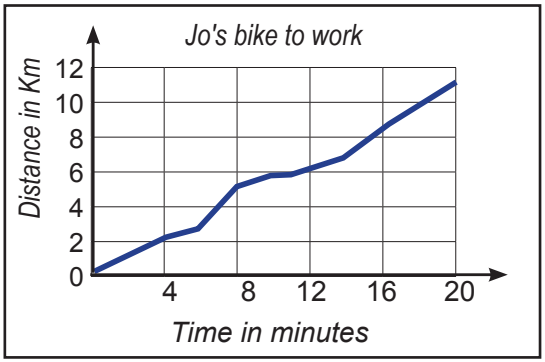


6. If 10% of $760 is $76:
   a) What is 5% of $760?
   b) What is 15% of $760?

7. Rebecca swam 80 lengths of a 50 m swimming pool. How many km did she swim?

8. Solve for m: m − 9 = 28

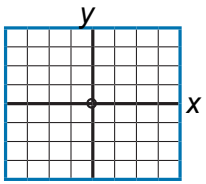
9. a) How far does Jo ride to work?
   b) What is her average speed?



10. Write as an expression:

    the number m less than 48

11. Sketch the graph for the equation y = 3.



12. The answer to a decimal calculation is shown as $7.\overline{14}$. What does this mean?

13 $\frac{-4}{5} + \frac{5}{6} =$

14 $3 + 6 \cdot 2 + 8 =$

15 What are the lengths of the sides of a square that has a perimeter of 352 metres?

16 Complete the equality. $\frac{x}{3} = \frac{\quad}{21}$

17 It is _____ that the next car I see will have four doors.

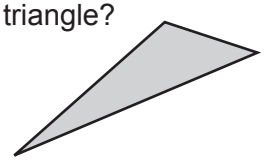
certain *likely* *equally likely* *unlikely* *impossible*

18 Which two names fit this triangle?

scalene *isosceles*

acute *obtuse*

Why?



19 Expand: $3(6 - n)$

20 Which property makes this true?

$3 \cdot (4 \cdot w) = (3 \cdot 4) \cdot w$

associative *commutative* *distributive*

21 $1\frac{2}{9} - \frac{5}{6} =$

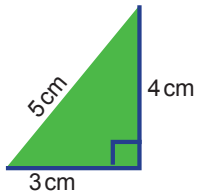
22 Label each pair of angles as *complementary (C)* or *supplementary (S).*

a) 75° and 15°
b) 120° and 60°
c) 37° and 53°

23 Translate the sentence into an equation.

Three is the quotient of 14 more than a number and 8.

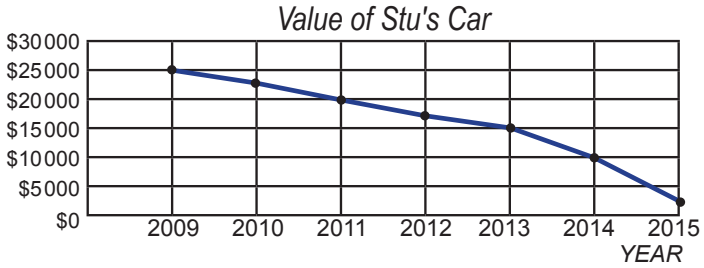
24 Which measurement is NOT needed when finding the area of this triangle?



25 $4\% = 0.\_\_\_\_\_ = \frac{\quad}{\quad}$

26 Solve for x. $\frac{5^3}{5} = 5^x$

27 In which year did the value of Stu's car depreciate by $7 500?



1. If m = 3, what is 7m?

2. Solve for x: 14 + x = 23

3. Write the prime factorisation of 90.

4. Match the word to its representation.

a) parallel lines
b) perpendicular lines
c) intersecting lines

A) 

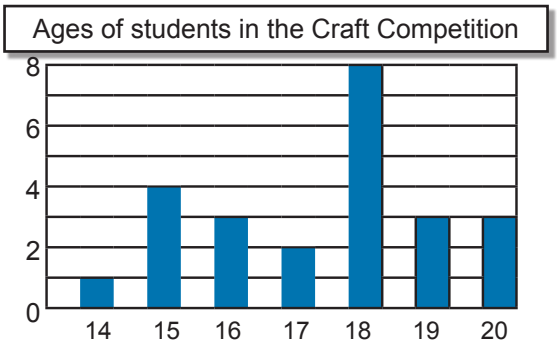
B) 

C) 

5. Solve for x. $1.128 \cdot 10^{x} = 0.00001128$

6. $66\frac{2}{3}\% = 0.\_\_\_\_\_ = \frac{\quad}{\quad}$

7. If you know that 1 km ≈ 0.62 miles, how many metres are there in 1 mile?

8. 

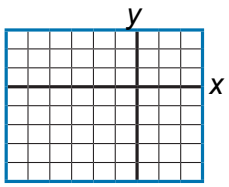
The ages of those students entered in the Craft Competition are presented in this graph.

a) Write a label for the y-axis.
b) Write a label for the x-axis.
c) What is an advantage of using a bar graph to compare the data?

9. Write as an expression:

A number is x greater than 45.

10. Sketch the graph for the equation $x = -5$.



11. This is a calculator display of an answer. Why is the last digit an 8?

6.77777778

12 $6\frac{2}{5} \cdot 3\frac{1}{8} =$

13 $45 - 15 \div 5 \cdot 6 =$

14 Which of these proportions is true? How do you know?

a) $5 : 25 = 10 : 50$ b) $\frac{25}{12} = \frac{5}{2}$

15 Angeline uses the formula $C = \pi d$ when solving a problem. What is she doing?

16 Draw each of these shapes.

a) trapezium b) parallelogram c) polygon

17 For 6, 4, 5, 8, 7, 3 find:

a) the mean b) the range

18 Factor: $5x + 25$

19 Write the inequality:

Eleven less than a number is greater than 35.

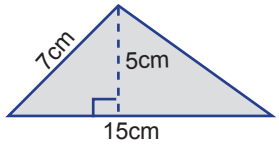
20 Which property makes this true?

$2(5 + 8) = 2 \cdot 5 + 2 \cdot 8$

associative *commutative* *distributive*

21 $-4\frac{3}{8} \div 2\frac{1}{2} =$

22 Which two measurements would you choose when finding the area of this triangle?



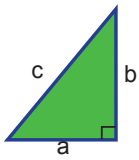
23 If 10% of \$564 is \$56.40:

a) What is 15% of \$564? b) What is 30% of \$564?

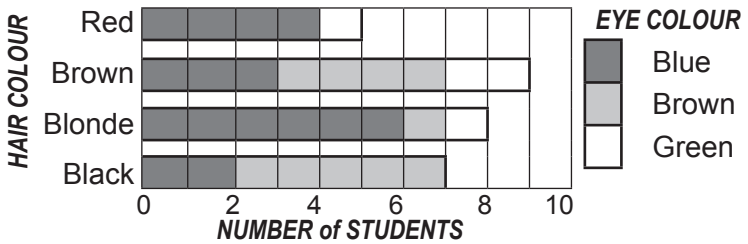
24 $\sqrt{64} =$

25 a) Name the hypotenuse of the triangle.

b) Name the longest side.



26 What percent of students with blonde hair have blue eyes?



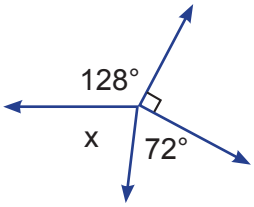
1. If s = 7, what is $\frac{63}{s}$?

2. Solve for x: 15 − x = 19

3. Using the diagram calculate these angles

   a) any acute angles.

   b) any obtuse angle.



4. What is the Least Common Multiple (LCM) of 6 and 9?

5. The wave length of light is $9 \cdot 10^{-7}$ m.

   Write in decimal notation.

6. Express in litres:

   200 mL + 5 L

   550 mL + 800 mL

   5000 mL + 250 mL

7. A council member needs to determine the sample size for a survey of her townspeople on a proposal to ban casinos.

   Match each of the sample sizes with its description.

   Which sample size do you think she should choose?

   Sample Size

   1) 12000 2) 10 3) 1000

   Description

   a) Quick and easy to do but may not give an accurate estimate

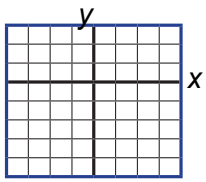
   b) Will give a fairly accurate estimate

   c) Expensive to do but will give an extremely accurate estimate.

8. Write as an expression:

   36 times the number x

9. Sketch the graph for the equation $y = {}^{-}3$.



10. 5 + 6 (8 − 3) ÷ 5 =

11. Write the prime factorisation of 975. Use exponents.

12. $2\frac{3}{7} + 1\frac{5}{14} =$

13 Write as a ratio:

the number of sides to a triangle to the sides of a hexagon

14 A regular polygon has a perimeter of 280 cm. Find the number of sides if each side is 40 cm long.

15 Name these quadrilaterals.

Choose from: *square* *parallelogram* *rectangle* *trapezium*

16 For 8, 11, 3, 15, 12, 7, 5 find:

a) the median.

b) the range.

17 Factor: $9g - 27$

18 Write the inequality:

Seventy-one is less than thirteen more than a number.

19 Which property makes this true?

$(20 \cdot 32) \cdot 5 = (20 \cdot 5) \cdot 32$

associative *commutative* *distributive*

20 $\frac{-4}{9} - \frac{1}{3} =$

21 Which is the greatest?

0.3 , $\frac{3}{8}$, 38%

22 Jade uses the formula $A = s^2$ when solving a problem. What is she doing?

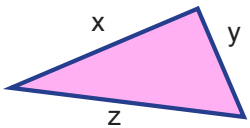
23 $6\sqrt{64} =$

24 Which equation shows the Pythagorean Theorem for this triangle?

a) $x^2 + y^2 = z^2$

b) $y^2 = x^2 + z^2$

c) $z^2 = (x + y)^2$



25 A dog eats 34 kilograms of food each month. How much of each type of food does it eat?