Year 9 foundation passport to success - due

Question 1 - (2 marks available)

Work out the answers to these questions.

a) 452 + 87

b) 5.26 + 12.98

Question 2 - (2 marks available)

Work out the answers to these questions.

a) 359 – 42

b) 217 – 53

Question 3 - (3 marks available)

Here are some numbers:

2 9 14 36 40

a) Which number is a multiple of 12?

b) Which number is a prime number?

c) Which number is a factor of 64?

Question 4 - (2 marks available)

Express 80 as the product of its prime factors.
Write the prime factors in ascending order.

Question 5 - (4 marks available)

Round the following numbers to the nearest 10:

a) 43

b) 85

c) 286

d) 308

Question 6 - (4 marks available)

Round the following numbers to 1 decimal place.

a) 27.564

b) 978.299

c) 42.935

d) 8.99

Question 7 - (4 marks available)

a) Round 4382 to 1 significant figure.

b) Round 25446 to 1 significant figure.

c) Round 38562.7 to 1 significant figure.

d) Round 87600.2 to 1 significant figure.

Question 8 - (2 marks available)

a) Estimate the value of 98.5×13

b) Estimate the value of $102.3 \div 4.7$

Question 9 - (2 marks available)

Solve $5x + 2 = 22$

Question 10 - (6 marks available)

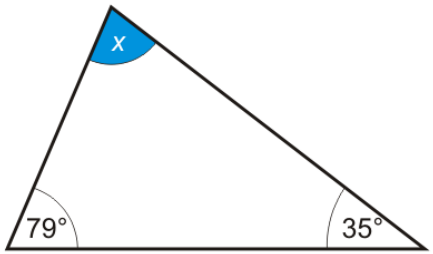
Solve the following:

a) $4x - 3 = 2x + 7$

b) $2x + 6 = 7x - 14$

Question 11 - (1 marks available)

Work out the size of angle x.

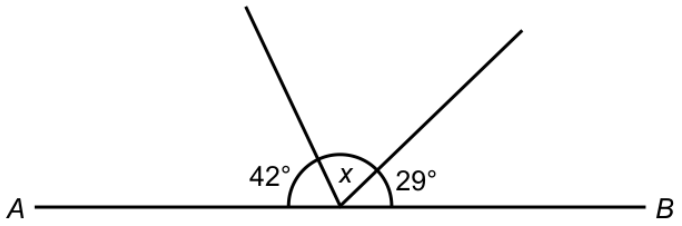


Question 12 - (1 marks available)

AB is a straight line.

Work out the size of angle x.

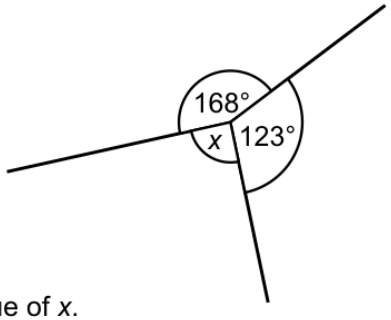
Not drawn accurately



Question 13 - (2 marks available)

The diagram shows three angles at a point.

Not drawn accurately

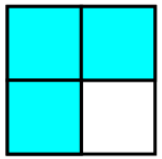


Work out the value of x.

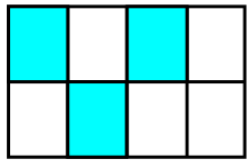
Question 14 - (4 marks available)

What fraction of each of the following shapes is shaded?

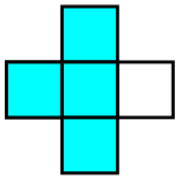
a)



b)



c)



d)

Question 15 - (2 marks available)

Write these fractions in their simplest forms:

a) $\frac{2}{10}$

b) $\frac{9}{24}$

Question 16 - (3 marks available)

Work out

a) $\frac{2}{7} + \frac{3}{7}$

b) $\frac{5}{8} + \frac{7}{8}$

c) $\frac{2}{3} - \frac{1}{2}$

Question 17 - (3 marks available)

Complete the table.

Fraction	Percentage	Decimal
$\frac{1}{5}$		
	25%	
$\frac{1}{2}$		
	$66.\dot{6}\%$	$0.\dot{6}$

Note: Please use the "/" key of your keyboard to enter the fraction (i.e. $\frac{1}{2}$ would be entered 1/2).

Question 18 - (4 marks available)

Calculate

a) 20% of £150

b) 15% of 80 kg

c) 85% of 2 500 m

Question 19 - (2 marks available)

A TV costs £800 plus VAT at 20%.

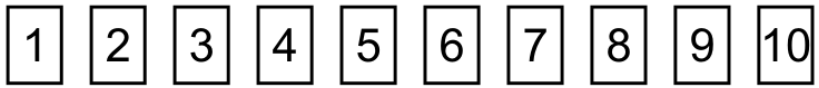
What is the total cost of the TV?

Question 20 - (1 marks available)

Solve the inequality $\frac{t}{4} > 7$

Question 21 - (3 marks available)

These cards are put into a bag:



One card is chosen at random.

a) What is the probability of choosing the card with the number 4?

b) What is the probability of choosing a card that has a digit 1 on it?

c) What is the probability of choosing a card that does not have a digit 1 on it?

Give your answers as fractions.

Question 22 - (1 marks available)

Cards in a pack are black or red in the ratio black : red = 2 : 5

What fraction of the cards are red?

$\frac{7}{10}$	$\frac{2}{5}$	$\frac{5}{7}$	$\frac{2}{7}$
A	B	C	D

Question 23 - (2 marks available)

150 adults complete a survey.
80 are women.

Write the ratio men : women in its simplest form.

Question 24 - (2 marks available)

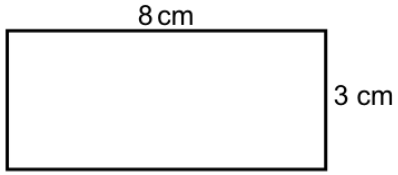
Ivan and Tanya share £150 in the ratio 4 : 1

Work out how much more Ivan gets compared to Tanya.

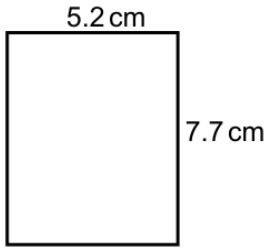
Question 25 - (2 marks available)

Calculate the areas of these rectangles.

a)



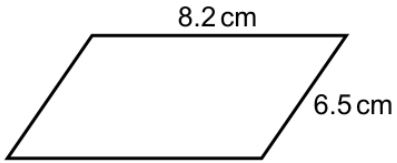
b)



Question 26 - (2 marks available)

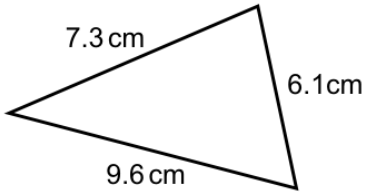
Find the perimeter of this parallelogram:

a)



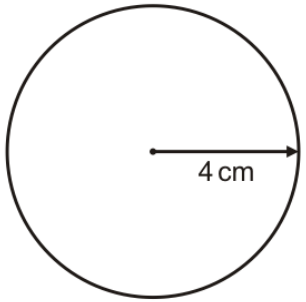
Find the perimeter of this triangle:

b)



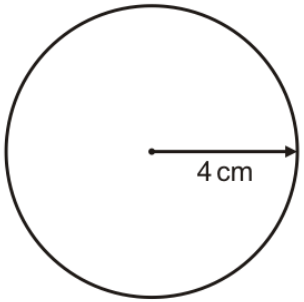
Question 27 - (2 marks available)

Work out the area of this circle.
Take π to be 3.142 and give your answer to 1 decimal place.



Question 28 - (2 marks available)

Work out the circumference of this circle.
Take π to be 3.142 and give your answer to 1 decimal place.

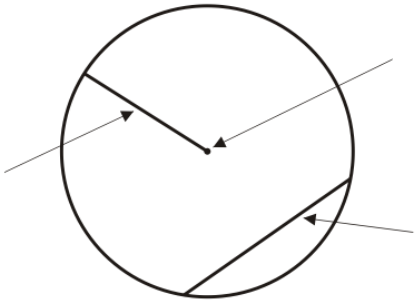


Question 29 - (3 marks available)

Here are words related to circles:

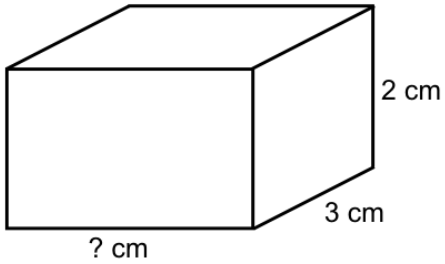
chord **radius** **circumference** **arc** **diameter** **centre**

Label the boxes on the diagram using the correct word from the list.



Question 30 - (2 marks available)

The diagram shows a cuboid with a volume of 42 cm^3.



Work out the missing length of the cuboid.

Question 31 - (4 marks available)

Write the following using index notation:

a) $2 \times 2 \times 2$

b) $3 \times 3 \times 3 \times 3 \times 3$

c) $4 \times 4 \times 4 \times 5 \times 5$

d) $9 \times 7 \times 9 \times 9 \times 7 \times 9$

Question 32 - (4 marks available)

Simplify the following:

a) $4^9 \times 4^3$

b) $6^5 \times 6^2$

c) $8^6 \div 8$

d) $7^8 \div 7^6$

Question 33 - (4 marks available)

a) Write 3.25×10^4 as an ordinary number.

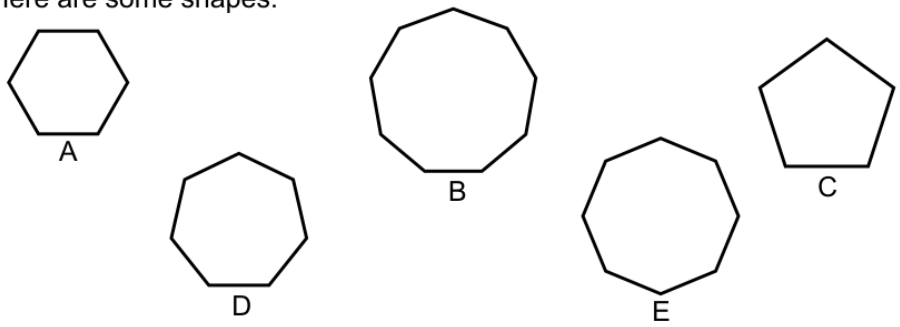
b) Write 6.04×10^{-3} as an ordinary number.

c) Write 2 400 000 in standard form.

d) Write 0.00147 in standard form.

Question 34 - (3 marks available)

Here are some shapes.



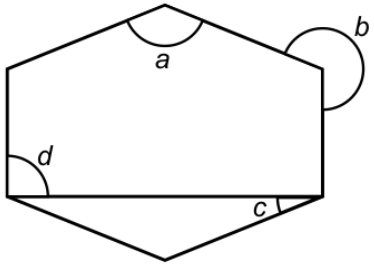
a) Which of the shapes is a heptagon?

b) Which of the shapes is a septagon?

c) Which of the shapes is an nonagon?

Question 35 - (4 marks available)

Look at the angles marked *a*, *b*, *c* and *d*.
Write the letter of the angle alongside its special name.



acute angle

reflex angle

right angle

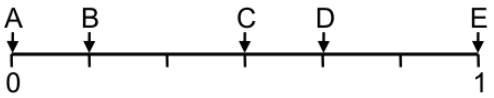
obtuse angle

Question 36 - (2 marks available)

The following letter cards are put in a bag.

S Q U A R E

A card is picked at random.



Which letter on the probability scale shows the probability of:

a) picking a card with a vowel on it?

b) picking a card that does not have a ‘T’ on it?