

# Year 8 Maths Test

70 marks, 60 minutes

Calculator Allowed

Name \_\_\_\_\_

\_\_\_\_\_

Please show your working throughout

1:

a) Pat says  $3 + 6 \times 3 = 27$ . What mistake has she made?

[1]

b) Put brackets in this calculation to make it correct

$$4 + 5 \times 8 - 3 = 45$$

[1]

2:

Each question below is incorrect. Identify the error that the student has made by circling it and stating what they should have done differently.

a)

$$\begin{array}{r} 123 \\ \times 16 \\ \hline 738 \\ + 123 \\ \hline 861 \end{array}$$

b)

$$\begin{array}{r} 28 \times 45: \\ 20 \times 40 = 800 \\ 8 \times 5 = 40 \\ \hline \text{Total} = 840 \end{array}$$

c)

$$-3 \times -4 = -12$$

d)

$$5 + -2 = -3$$

[4]

3:

Use the cards above to fill in the gaps below. For each question part you may use each card **once**

**-4**

**-2**

**4**

**8**

**16**

a)

$$4 \times \square = \square$$

b)

$$2 + \square = \square$$

c)

$$4 - \square = \square$$

d)

$$4 - \square \times \square = 36$$

[4]

4:

Simplify by collecting like terms

a)  $2x + 3y + 5x - 2y =$

.....  
[2]

b)  $k + 2k + 4k =$

.....  
[1]

c)  $3x^2 + 6xy - 5x^2 + xy$

.....  
[2]

5:

Expand and simplify

a)  $3(x + 7)$

.....  
[1]

b)  $4x(x - 4)$

.....  
[2]

c)  $2(6x + 7) - 3(4 - 2x)$

.....  
[3]

6:

Solve the equations

a)  $2x = 16$

$x =$  .....  
[1]

b)  $\frac{x}{4} = 8$

$x =$  .....  
[1]

c)  $3x + 1 = 40$

$x =$  .....  
[2]

d)  $11x - 7 = x + 19$

x = .....  
[2]

e)  $5(3x - 2) = 4(2x + 1)$

x = .....  
[3]

**7:**

- a) Find 30% of 670 using any method

.....  
[2]

- b) In a sale, prices are reduced by 7%

How much would you pay for a jacket that originally cost £25.99? Round your answer to the nearest penny

.....  
[3]

c) The price of a phone increases from £200 to £230. What percentage change is this?

.....  
[2]

d) Felipe scores 10 out of 25 (40%) on Exam A and 30 out of 60 (50%) on Exam B

What is his overall percentage?

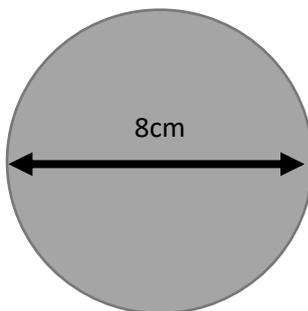
.....  
[2]

Deirdre claims the answer above should be 45% as that is the middle of 40% and 50%. Why is this not the case?

[1]

**8:**

Look at the circle below. For this question, round to one decimal place



a) What is the radius of the circle?

.....  
[1]

b) What is the area of the circle?

.....cm<sup>2</sup>  
[2]

c) What is the circumference of the circle?

.....

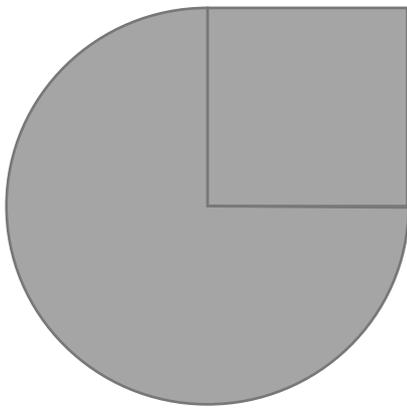
[2]

d) Draw and label a **chord** on the circle

[1]

**9:**

Find the area and perimeter of the shape below, given it is made up of a square of side length 8cm and a three-quarter circle



Area = .....

Perimeter = .....

[4]

10:

a) Simplify the ratio 18:2

.....

[1]

b) Simplify the ratio 3 metres: 40 centimetres

.....

[2]

c) Split £200 in the ratio 2:3

.....

[2]

d) On a map, the distance between two points is 3.6cm.  
If the map scale is 1:50,000, what is the real distance between those two points?  
Give your answer in kilometres

.....km

[2]

e) A recipe for 8 cakes calls for  
300g sugar  
4 eggs  
120g flour  
40g sultanas

Dave's cupboards contain  
1 kg sugar  
12 eggs  
400g flour  
100g sultanas

What is the maximum number of cakes he can make?

.....

[3]

**11:**

Simplify, using index rules

a)  $b^4 \times b^8$

.....  
[1]

b)  $12d^4 \div 3d^{-5}$

.....  
[2]

c)  $\frac{f^3 \times f}{(f^2)^5}$

.....  
[3]

**12:**

Mr Prescott wants to make a questionnaire about the exam. He includes this question:

This exam was amazing, don't you agree?

Yes  Absolutely  Sometimes

a) Give **two** criticisms of the question and/or response section

.....  
.....  
.....  
.....  
.....  
[3]

b) He mails this questionnaire out to people chosen at random across Crosby.  
Give **one** criticism of this approach

.....  
.....  
.....  
[1]

**End of Questions**