OCTOBER... A LITTLE BIT OF MATHS EVERY DAY

JustMaths

1

Simplify, leave your answer in index form

$6^3 \times 6^3$ 6^6

$(5^2)^3$ 5^6

2

Solve:

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

$5x + 5 = 6x - 12$

$17 = x$

$x = 17$

3

What is the reciprocal of each number?

5 $\frac{1}{5}$

$\frac{1}{3}$ 3

4

Convert to an improper fraction

$3\frac{4}{7}$ $\frac{25}{7}$

5

A box of cereal weighs 750g to the nearest 10g. What is the error interval?

$745 \leq \text{cereal} < 755$

6

In a survey of 24 students:

- three eighths prefer studing French 9
- one sixth prefer studying German and 4
- the rest prefer studying Spanish. 11

How many students prefer studying Spanish? 11

7

8

The cost of hiring a van can be calculated using the rule:

Cost = £80 + 52p per mile

Rob hires a van and travels 140 miles. How much does this cost him?

£152·80

9

10

By rounding estimate the answer to the below:

$\frac{9.7 + 46}{0.32}$ $\frac{60}{0.3} = 200$

11

Which two have the same value?

8 + 6 = 2

8 + 4 = 2

-6 - -2 = -4

12

True or False?

$a^7 \times a^4 = a^{28}$

False as a^{11}

13

Find the midpoint of the line AB where:

A = (2,4) and

B = (-1, 3)

(0·5, 3·5)

14

Work out

$16 - (4 \times 3) + 6 =$ 12, 10

$12 + 3 \div 3 + 2 =$ 1, 15

15

Simplify

$a \times a \times a + b + b$

$a^3 + 2b$

16

Solve:

$9x - 7 = 4x - 12$

$5x = -5$

$x = -1$

17

What is the gradient and y-intercept of the line

$y = 2x - 3$?

gradient = 2

intercept = -3

18

Write these in size order, smallest first?

0·15 0·25

0.2 $\frac{3}{20}$ 0.13 $\frac{1}{4}$

0·13 $\frac{3}{20}$ 0·2 $\frac{1}{4}$

19

Find 3.75% of 80.

3

20

Elaine's grandchildren all live in Wales or England.

Two sevenths of her grandchildren live in Wales. $\frac{2}{7}$

15 of her grandchildren live in England $\frac{5}{7}$ $\frac{1}{7} = 3$

How many grandchildren does Elaine have? $\frac{7}{7} = 21$

21

21

22

Which is greater?

40% of 50 or 50% of 40

20 20

They are the same

23

Make a the subject of :

$b = (a - 3)^2$

$\sqrt{b} = a - 3$

$a = \sqrt{b} + 3$

24

Calculate:

$1\frac{2}{3} - \frac{1}{5}$ $\frac{22}{15}$ $1\frac{7}{15}$

25

How many "terms" in this expression?

$4x + 5b - 3c$

3

26

Expand:

$(2x + 4)(3x + 2)$

$6x^2 + 4x + 12x + 8$

$6x^2 + 16x + 8$

27

28

Emma is E years old. Hannah is twice as old as Emma. The sum of their ages is 27.

How old is Emma?

$3E = 27$ $E = 9$ years old

29

Laura scored 48 out of 250 on her recent test. Write this as a percentage. 19·2%

30

£1 = $1.49

Jan exchanged £300 to dollars. How much did she receive?

$447

31

True or False?

The HCF of 20 and 40 is 4

False... its 10.

REMEMBER: The best way to revise maths is to "do Maths"!