

$2^2 \times 11$ questions for half term...

All non-calculator unless it says otherwise in the question!

Try doing these in three or four sessions spread over the two weeks not all at once!

- 1) Work out 56×83 using any non-calculator method
- 2) Calculate $\frac{4}{5}$ of £85.15
- 3) Write down the first six prime numbers
Hint: 1 *isn't* a prime number!
- 4) Write down the first ten square numbers
Hint: 1 *is* a square number
- 5) Aaron buys a sandwich for £1.60, a can of drink for 85p and a cake for 65p.
What change should he receive from a £5 note?
- 6) Simplify $\frac{15}{24}$
- 7) Write down the lowest common multiple of 20 and 30
Hint: multiples are same or larger than the numbers
- 8) Write down the highest common factor of 45 and 75
Hint: factors are same or smaller than the numbers
- 9) Write down the value of $\sqrt{144}$
- 10) Write down the first six cube numbers
Hint: $1^3 = 1 \times 1 \times 1 = 1$ and $2^3 = 2 \times 2 \times 2 = 8$ and so on
- 11) It is -3°C one crisp morning. The temperature is 12 degrees warmer at noon.
What is the temperature at noon?
- 12) Find the missing number: $\frac{15}{40} = \frac{\quad}{8}$
- 13) Convert 0.65 to a fraction in its simplest form
- 14) What is 50% of £4 500?
- 15) Fred is paid 'time and a half' ($1\frac{1}{2} \times \text{rate}$) on Saturdays
He is usually paid £8 per hour. How much is he paid on Saturdays?

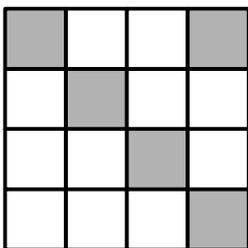
16) What does the digit 7 represent in the number 1 760?

17) Calculate $\frac{3}{8} + \frac{1}{4}$

18) Work out $\frac{3}{4} \times \frac{12}{13}$

19) Work out 0.3×0.2

20) How many more squares do you need to shade so that $\frac{7}{8}$ of the shape is shaded?



21) Naomi wins £750 in a prize draw

She gives half of the money to her mother

She pays one third of the money into her savings account

How much does Naomi have left?

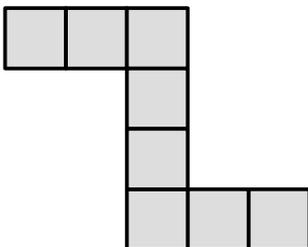
22) Siobhan has a budget of £800 to run some youth activities

She allocates half the budget to mini-bus hire for trips

75% of the remainder is used to pay for a new set of football equipment

How much is left to organise a halloween party?

23) The shape below is made from 1 cm squares

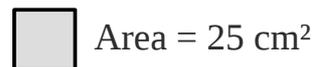
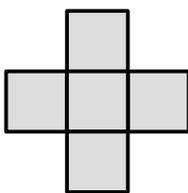


a) What is the area of the shape?

b) What is the perimeter of the shape?

24) Write down all the factors of 72

- 25) Write down the value of $\sqrt[3]{125}$
- 26) Write 80 as a product of its prime factors. Use index form.
- 27) At 06:15 the 33 and the x51 buses arrive together.
 A 33 bus arrives every 8 minutes
 The x51 bus arrives every 20 minutes
 At what time will the 33 and x51 arrive together again?
- 28) Harpreet runs a market stall. He buys a crate of oranges for £10.
 He sells 50 of the oranges for 30p each
 Then he sells another 30 for 20p each
 The rest of the oranges are a bit squashy so he puts them on the compost heap.
 What profit does Harpreet make on the crate?
- 29) Use a calculator to find the value of $\frac{1+\sqrt{5}}{2}$
- Write down all of the figures on the calculator display
 - Round off the value to 2 places of decimals
- Fascinating fact: This number is involved in the 'golden ratio' and it has quite a history as a quick Web search will reveal.
- 30) Look at the list of numbers below
 1, 9, 12, 25, 34, 51, 81, 90, 97, 144, 200
- Write down a square number in the list
 - Write down all of the multiples of 3 in the list
 - Write down a prime number in the list
 - Write down a factor of 100 in the list
- 31) The cross shape below is made from squares each with an area of 25 cm²
 Find the perimeter of the cross shape.



- 32) Work out the value of $30 - 5 \times \sqrt{16}$
 Hint: BIDMAS

33) Write down all the factors of 36

Hint: not the prime factors, just the ordinary ones

34) Which of the following fractions are equivalent to $\frac{2}{3}$?

$$\frac{8}{12} \quad \frac{9}{12} \quad \frac{14}{21} \quad \frac{18}{24} \quad \frac{34}{51}$$

35) Find half way between -12 and 20

36) Put these fractions in order of size, starting with the smallest one

$$\frac{1}{4} \quad \frac{2}{3} \quad \frac{5}{6} \quad \frac{7}{12} \quad \frac{3}{8}$$

Hint: write them all over the same common denominator

37) (*) What is half way between $\frac{3}{4}$ and $\frac{4}{5}$?

Hint: find a common denominator twice as large as the lowest common multiple...

38) Calculate $2\frac{1}{2} + 5\frac{3}{8}$

39) Find 15% of £630

40) A postage stamp increases in cost from 60p to 75p.

Calculate the percentage increase

41) Put a pair of brackets in the BIDMAS expression below to make it correct

$$40 - 4 + 5 \times 6 = 6$$

42) A square has perimeter 28 cm. What is the area of the square?

43) A bank makes mortgage loans on the following basis

Maximum loan = $3\frac{1}{4}$ times the largest salary plus the smaller salary

Hester and Larry earn £34 000 and £12 500 respectively

What is the maximum loan that they can obtain?

44) A square has area 121 cm^2 . What is the perimeter of the square?

Hint: some squared paper would help with this one. Also see question number and title of the worksheet.