Fractions, Decimals and Percentages – 2021/20 GCSE Mathematics Foundation

1. Nov/2021/Paper_J560/01/No.6

Write the following numbers in order of size, smallest first.

0.529 0.54 0.51 0.502

..... , ... , ... , ...

smallest **[2]**

2. Nov/2021/Paper_J560/01/No.16

Harper's wage is £1200 each month.

They spend $\frac{1}{4}$ of their wage on rent.

They spend £460 of their wage on other items.

What fraction of their wage does Harper have left?
Give your answer in its simplest form.

..... **[4]**

3. Nov/2021/Paper_J560/01/No.21

The price of a plane ticket is increased by 15% to £1426.

Find the original price of the plane ticket.

£ ..... **[3]**

4. Nov/2021/Paper_J560/02/No.3

Work out.

(a) $9.06 \div 3$

(a) ..... **[1]**

(b) 15×0.6

(b) ..... **[2]**

5. Nov/2021/Paper_J560/02/No.4

Use one of these symbols $<$, $>$ or $=$ to make each statement true.

(a) $\frac{1}{4}$ ..... 0.025 **[1]**

(b) 0.304 ..... 0.34 **[1]**

6. Nov/2021/Paper_J560/02/No.6

In a quiz, Darcy answered 16 of the 20 questions correctly.

(a) What fraction of the questions did Darcy answer correctly?
Give your fraction in its lowest terms.

(a) ..... **[2]**

(b) Write the fraction as a decimal.

(b) ..... **[1]**

7. Nov/2021/Paper_J560/02/No.7

(a) Write $\frac{13}{3}$ as a mixed number.

(a) ..... **[1]**

(b) Work out.

(i) $\frac{1}{3} + \frac{4}{9}$

(b)(i) ..... **[2]**

(ii) $3 \div \frac{1}{3}$

(ii) ..... **[1]**

8. Nov/2021/Paper_J560/02/No.14

A car mechanic has a tin containing 5 litres of engine oil.
Each week they use 450 millilitres of this oil for their vehicles.

The car mechanic says

After 9 weeks I will have used over 80% of the oil in this tin.

Are they correct?
Show how you decide.

.....

..... **[5]**

9. Nov/2021/Paper_J560/02/No.19

A worker received a 10% pay increase in 2017 and a further 10% pay increase in 2018.
The worker says

Over these two years, my pay increased by 10% + 10% = 20%.

The worker is incorrect.

Work out the correct percentage increase.
You must show your working.

..... **[5]**

10. Nov/2021/Paper_J560/03/No.3

There are 150 coins in a jar.
20% of the coins are 10p coins.
$\frac{3}{10}$ of the coins are 20p coins.
The rest of the coins are 50p coins.

Work out the total value, in £, of the 150 coins.
You must show your working.

£ ..... **[6]**

11. Nov/2021/Paper_J560/03/No.5

Increase 600 by 17%.

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

12. Nov/2021/Paper_J560/03/No.13

Ellis has 28 m of ribbon.
They cut the ribbon into lengths of 60 cm.

What is the least length of ribbon, in cm, that can be left over?
You must show your working.

..... cm **[5]**

13. Nov/2020/Paper_J560/01/No.4

(a) Write 2% as a decimal.

(a) ..... **[1]**

(b) Write $\frac{11}{20}$ as a percentage.

(b) ..... % **[1]**

14. Nov/2020/Paper_J560/01/No.5

Use one of the symbols $<$, $=$ or $>$ to make each statement true.

(a) 0.7 ..... $\frac{2}{3}$ **[1]**

(b) 27.06 ..... 27.59 **[1]**

15. Nov/2020/Paper_J560/01/No.14

Harry is paid £8.60 per hour for the first 30 hours he works each week.

After 30 hours he is paid $1\frac{1}{2}$ times the hourly rate.

Last week, Harry worked for 33 hours.

He was also paid a bonus of $\frac{1}{10}$ of his earnings for that week.

Calculate how much Harry was paid **in total** last week.

£ ..... **[6]**

16. Nov/2020/Paper_J560/01/No.20

James is taking three examination papers in Spanish.
Here are his first two results.

Paper 1: $\frac{43}{80}$ Paper 2: $\frac{38}{65}$

Paper 3 is out of 95.
The marks in each of the three papers are added together.

Find the lowest mark that James needs in Paper 3 to achieve 60% of the total marks.

..... **[4]**

17. Nov/2020/Paper_J560/01/No.21

Solve the simultaneous equations.

$2x + 3y = 10$
$3x + 5y = 17$

$x =$ .....

$y =$ ..... **[4]**

18. Nov/2020/Paper_J560/02/No.3

(a) Complete each statement by writing the missing value in the box.

(i) $\frac{1}{3} = \frac{2}{\square}$ **[1]**

(ii) $1\frac{1}{7} = \frac{\square}{7}$ **[1]**

(b) Work out.

(i) $0.8 \div 2$

(b)(i) ..... **[1]**

(ii) 1.7×2

(ii) ..... **[1]**

19. Nov/2020/Paper_J560/02/No.4

(a) Write 0.16 as a fraction in its simplest form.

(a) ..... **[2]**

(b) Write $\frac{7}{20}$ as a decimal.

(b) ..... **[2]**

20. Nov/2020/Paper_J560/02/No.12

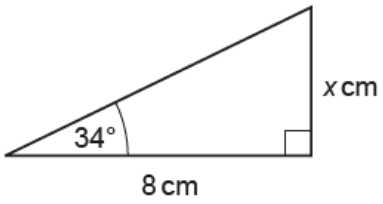
A jacket has its price reduced by 20% in a sale.
The sale price is £56.

Work out the price of the jacket before the sale.

£ ..... **[3]**

21. Nov/2020/Paper_J560/02/No.18

Here is a right-angled triangle.



Not to scale

Use trigonometry to work out the value of x.

$x =$ ..... **[3]**

22. Nov/2020/Paper_J560/03/No.6

(a) Work out 70% of 50.

(a) ..... **[2]**

(b) Beth multiplies a number by 3 and divides the answer by 10.

By what fraction has the number been reduced?

(b) ..... **[2]**

(c) Find a fraction which is bigger than $\frac{3}{7}$ and smaller than $\frac{4}{7}$.

(c) ..... **[2]**

23. Nov/2020/Paper_J560/03/No.8

(a) Jo walks every day.
This week she walked an average of 2300 steps a day.
Next week she plans to increase this by 15%.

Work out how many steps she plans to walk **in total** next week?

(a) ..... **[4]**

(b) Jo buys a pair of walking boots for £63 in a sale.
She saves $\frac{1}{10}$ of the original price of the boots.

Work out how much money Jo saves.

(b) £ ..... **[3]**