Name:

Exam Style Questions

Expressing as a Percentage

Corbettmaths

Equipment needed: Pen and Calculator

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 237

Answers and Video Solutions

1. For every 50 students at Hightown School, 29 are right handed.

   (a) Work out 29 as a percentage of 50.

   $$\frac{29}{50} = \frac{58}{100}$$

   ....58......... %

   (2)

   1000 students attend Hightown School.

   (b) How many right handed students attend Hightown School?

   $$\frac{58}{100} = \frac{580}{1000}$$

   ....580.........

   (2)

2. David receives £5 from his Grandmother.
   He gives £2 to his sister.

   Write down £2 as a percentage of £5.

   $$\frac{2}{5} = \frac{4}{10} = \frac{40}{100}$$

   ....40......... %

   (1)

3. Roger scores 6 out of 8 in a quiz.

   Work out his score as a percentage.

   $$\frac{6}{8} = \frac{3}{4} = \frac{75}{100}$$

   ....75......... %

   (1)

4. Susan brings 500 flapjacks to a local fair.
Susan sells 450 of the flapjacks.

What percentage of the flapjacks did Susan sell?

$$\frac{450}{500} = \frac{90}{100}$$

90 .... %

(2)

5. Write 94 out of 200 as a percentage.

$$\frac{94}{200} = \frac{47}{100}$$

.... 47 ..... %

(2)

6. Colin gains 13 out of 20 in a class test.

Work out his mark as a percentage

$$\frac{13}{20} = \frac{65}{100}$$

.... 65 ..... %

(2)

7. Work out 15 as a percentage of 80.

$$15 \div 80 = 0.1875$$

$$0.1875 \times 100$$

.... 18.75 % ...

(2)

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8. Express 126 as a percentage of 360

$$126 \div 360 = 0.35$$

$$0.35 \times 100 = 35$$

................35......%

(2)

9. There are 600 people at a football match.
There 222 children at the match.

Write 222 out of 600 as a percentage.

$$\frac{222}{600} = \frac{37}{100}$$

$$\begin{array}{r} 0\ 3\ 7 \\ 6\overline{\smash{)}2^22^24^42} \end{array}$$

................37......%

(2)

10. Write 42 as a percentage of 64

$$42 \div 64 = 0.65625$$

$$0.65625 \times 100 = 65.625$$

................65.625......%

(2)

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11.

$4 \times 5 = 20$

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
16.5			17

Work out the percentage of this grid that is shaded.

$$\frac{17}{20} = \frac{85}{100}$$

............85............%

(2)

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12. What percentage is 3cm of 16cm?

$$\frac{3}{16}$$

$3 \div 16 = 0.1875$

0.1875×100

............18.75............%

(2)

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13. Work out £153 as a percentage of £450

$153 \div 450 = 0.34$

$0.34 \times 100 = 34$

............34............%

(2)

14. Bryan buys a car costing £15000.
    He pays a deposit £6000.

    What is £6000 as a percentage of £15000?

$$\frac{6000}{15000} = \frac{600}{1500} = \frac{40}{100}$$

    0.40
    15⟌600

    ....40......%

    (2)

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15. There are 400 beads in a bag.
    140 of the 400 beads are yellow.

    Work out 140 as a percentage of 400.

    0.35
    4⟌140

$$\frac{140}{400} = \frac{35}{100}$$

    ....35......%

    (2)

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16. There are 1200 homes in a town.
    360 of the homes have solar panels.

    Work out the percentage of the homes in the town that have solar panels.

$$\frac{360}{1200} = \frac{30}{100}$$

    0.30
    12⟌360

    ....30......%

    (2)

17. A hotel has 79 guests.

64 of the guests had breakfast.

What percentage of the guests had breakfast?
Give your answer to 1 decimal places.

$$\frac{64}{79}$$

$$64 \div 79 = 0.8101265..$$

$$0.8101265.. \times 100 = 81.0126..$$

_81.01_ %

(2)

18. Mohammad takes the penalties for his local football team.

Altogether he has scored 34 penalties and missed 6 penalties.

Work out the percentage of penalties that Mohammad has scored. *missed*

$$34 + 6 = 40 \text{ taken}$$

$$\frac{6}{40} = 0.15$$

$$0.15 \times 100 = 15$$

_15_ %

(2)

19. James scored 30 out of 90 in a music test.
He scored 48 out of 150 in a drama test.
James scored 35 out of 120 in an art test.

In which test did James score the highest percentage?
You must show your workings.

Music

$$\frac{30}{90} = 33.33...\%$$

Drama

$$\frac{48}{150} = 32\%$$

Art $\quad \frac{35}{120} = 29.166...\%$

Music ....

(4)

20. Walter sits an exam has two sections.

In section 1, he scored 17 out of 20.

In section 2, he scored 41 out of 60.

What percentage did Walter score in the exam?

$$17 + 41 = 58$$

$$20 + 60 = 80$$

$$\frac{58}{80} = 0.725$$

72.5 ....%

(3)

21. An airport has three car parks: short stay, main stay and long stay.

In total there are 12000 spaces in the three car parks.

$\dfrac{2}{15}$ of the spaces are in the short stay car park.

There are 3080 spaces in the main stay car park.

What percentage of the spaces at the airport are in the long stay car park?

$12000 \div 15 = 800$

$800 \times 2 = 1600$ (short stay)

$1600 + 3080 = 4680$ (short and main stay)

$12000 - 4680 = 7320$ (long stay)

$\dfrac{7320}{12000} \times 100 = 61$

.............**61**.............%

(4)

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22. In a jar, there are 1250 red, yellow and pink sweets.
There are twice as many yellow than red sweets in the jar.

There are 330 yellow sweets in the jar.

What percentage of the sweets in the jar are pink?

330 yellow

$330 \div 2 = 165$ red

$330 + 165 = 495$

$1250 - 495 = 755$

$\dfrac{755}{1250} = 0.604$

.............**60.4**.............%

(3)

23. Lexie sits a maths test.

The test has 40 questions and a student needs to answers at least 60% correctly in order to pass.

Lexie passes the test and she notices that her number of correct answers is a prime number.

Lexie has scored y% in the test.

Write down a possible value of y.

$$\frac{40}{100} \times 60 = 24$$

At least 24 right

primes : 29, 31, 37

$$\frac{29}{40} = 72.5\% \qquad \frac{31}{40} = 77.5\% \qquad \frac{37}{40} = 92.5\%$$

72.5
77.5
or 92.5
....

(4)

24. The price of an air fryer is £160
In a sale the price is decreased by £28.

Work out the decrease as a percentage of the original price.

$$\frac{28}{160} = 0.175 \qquad\qquad \frac{28}{160} = \frac{7}{40}$$

$$\begin{array}{r} 0.175 \\ 40\overline{\smash)7.7^{30}0^{20}0} \end{array}$$

17.5
......................%

(2)

25. The price of a cinema ticket is reduced from £8 to £7.50

    Calculate the reduction as a percentage of the original price.

$$\frac{50}{800} = \frac{5}{80}$$

80
160
240
320
400
480
560

$$80 \overline{\smash{)}5.5^{50}0^{20}0^{40}0}$$ 0.0625

6.25 ....%

(3)

26. Work out 150 as a percentage of 60.

$$\frac{150}{60} = 2.5$$

$$60 \overline{\smash{)}150.^{30}000}$$ 002.5

250 ....%

(1)

27. A hockey team win $\frac{11}{20}$ of their matches.

The team draw $\frac{1}{4}$ of their matches.

The team lose the rest of their matches.

Work out the percentage of their matches the hockey team lose.

$$\frac{11}{20} + \frac{1}{4}$$

$$\frac{11}{20} + \frac{5}{20} = \frac{16}{20} \quad (\text{win } \& \text{ draw})$$

$$\searrow \frac{4}{5}$$

$$1 - \frac{4}{5} = \frac{1}{5}$$

........20........%

(3)

28. The population of a country is 2.85×10^6

The number of people that own a rabbit is 1.24×10^5

Calculate the percentage of the population that own a rabbit.

$$\left(1.24 \times 10^5\right) \div \left(2.85 \times 10^6\right) = 0.0435087...$$

$$4.35087.. \%$$

........4·35........%

(3)

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