Name:

Exam Style Questions

Fraction of Amounts

Corbettmaths

Equipment needed: Calculator, pen

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 137

Answers and Video Solutions

1. Work out

$\frac{3}{4}$ of 36

$36 \div 4 = 9$

$9 \times 3 = 27$

27

(2)

2. Work out

$\frac{1}{3}$ of 24

$24 \div 3 = 8$

8

(1)

3. Work out

$\frac{2}{5}$ of 35 days

$35 \div 5 = 7$

$7 \times 2 = 14$

14 days

(2)

4. Calculate

$\frac{4}{9}$ of 72 kg

$72 \div 9 = 8$

$8 \times 4 = 32$ kg

32 kg

(2)

5. Work out

$\frac{4}{7}$ of 2 weeks

14 days

Give your answer in days.

$14 \div 7 = 2$

$2 \times 4 = 8$

8 .....days

(2)

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6. Calculate

$\frac{5}{8}$ of 14 kg

$14 \div 8 = 1.75$

$1.75 \times 5 = 8.75$

8.75 .....kg

(2)

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7. James earns £800 a month.

He spends $\frac{1}{4}$ on rent and $\frac{2}{5}$ on food and bills.

$5\overline{)800}$ = 160

How much money has he left?

$800 \div 4 = £200$ (rent)

$800 \div 5 = £160$

$£160 \times 2 = £320$ (food & bills)

$200 + 320 = 520$

$800 - 520 = 280$

£ 280 .....

(4)

8. Mrs Johnson set 6 students a test.
The test has 20 questions.

Mrs Johnson says

"to pass you will need to answer $\frac{3}{4}$ of the questions correctly."

The results were:

Alan	14	✗
Barry	16	✓
Carl	13	✗
Donna	19	✓
Emma	20	✓
Fiona	10	✗

Work out which students passed the test.

$20 \div 4 = 5$

$5 \times 3 = 15$ marks

Barry , Donna , Emma

(3)

9. Which is larger?

$\frac{1}{2}$ of 280 or $\frac{3}{8}$ of 400

Show your working.

$280 \div 2 = 140$

$400 \div 8 = 50$

$50 \times 3 = 150$

$\frac{3}{8}$ of 400

(3)

10. Joanne has 300 sweets.

She gives $\frac{1}{2}$ of the sweets to Erin.

Joanne then gives $\frac{1}{3}$ of the remaining sweets to William.

How many sweets does Joanne have left?

$300 \div 2 = 150$

$300 - 150 = 150$

$150 \div 3 = 50$

$150 - 50 = 100$

100

.....

(2)

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11. Hannah has \$900.

She spends $\frac{1}{3}$ on books and $\frac{2}{5}$ on presents.

What fraction of the \$900 has she left?

$\frac{240}{900} = \frac{24}{90}$

$= \frac{12}{45}$

$900 \div 3 = \$300$ (books)

$900 \div 5 = 180$

$180 \times 2 = \$360$ (presents)

$300 + 360 = 660$

$900 - 660 = 240$

$\frac{4}{15}$

.....

(4)

12. A pair of jeans normally costs £48

In the sales there is $\frac{1}{4}$ off

Work out how much the jeans are in the sales.

$48 \div 4 = 12$

$48 - 12 = 36$

£ 36

(2)

13. Work out

$\frac{5}{7}$ of 168

$168 \div 7 = 24$

$24 \times 5 = 120$

024
7|168

24
×5
120

120

(2)

14. Work out

$\frac{4}{3}$ of 288

$288 \div 3 = 96$

$96 \times 4 = 384$

096
3|288

96
×4
384

384

(2)

15. A shop has 24 bottles of lemonade.

$\frac{2}{3}$ of the bottles contain 500ml.

The rest of the bottles contain 2 litres.

How much lemonade does the shop have in total?

16
3 x 5
80

24 ÷ 3 = 8

8 x 2 = 16

8 x 2 = 16 litres

8 + 16 = 24

16 bottles contain 500ml

8 contain 2 litres

16 x 500 = 8000 ml

8 Litres

24 litres

.....

(4)

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16. In January a baby elephant weighs 180kg.

By March the weight of the baby elephant had increased by $\frac{3}{8}$

Work out the weight of the baby elephant in March.

180 ÷ 8 = 22.5

22.5 x 3 = 67.5 kg

180 + 67.5 = 247.5

247.5

.....kg

(3)

17. Bill is 80 years old.

His son Max is $\frac{5}{8}$ of his age.

His granddaughter Jayne is $\frac{1}{5}$ of his age.

How many years older than Jayne is Max?

80 ÷ 8 = 10

10 × 5 = 50 (Max)

80 ÷ 5 = 16 (Jayne)

50 − 16 = 34

34

(4)

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18. Georgie works 5 hours each week.
She earns £15 per hour.

Georgie saves $\frac{1}{3}$ of her earnings each week.

How many weeks does it take Georgie to save £200?

5 × 15 = 75

75 ÷ 3 = £25 per week

200 ÷ 25 = 8

8 weeks

(4)

19. Gregory received £2400.

He gave $\frac{1}{3}$ of it to his favourite charity and spent $\frac{1}{5}$ of it on a new violin.

What fraction of his money is left?

$$\begin{array}{r} 0480 \\ 5\overline{)2400} \end{array}$$

2400 ÷ 3 = £800 (charity)

2400 ÷ 5 = £480 (violin)

800 + 480 = £1280

2400 − 1280 = £1120 (left)

$\frac{1120}{2400} = \frac{112}{240} = \frac{56}{120} = \frac{28}{60} = \frac{14}{30} = \frac{7}{15}$ $\frac{7}{15}$

(4)

20. A static caravan normally costs £58995

The price is reduced by $\frac{1}{5}$ in a sale.

Calculator.

Work out the sale price of the static caravan.

$$\begin{array}{r} 11799 \\ 5\overline{)58^{3}9^{4}9^{4}5} \end{array}$$

$$\begin{array}{r} {}^{8}{}^{1}{}^{8}{}^{1} \\ 58995 \\ -\ 11799 \\ \hline 47196 \end{array}$$

58995 ÷ 5 = 11799

58995 − 11799 = 47196

£47196

(2)

21. The attendance at Frome United versus Trowbridge Rovers was 8,701.

Of this crowd, five-sevenths were adults.
Calculate how many children were in the crowd. → $\frac{2}{7}$

8701 ÷ 7 = 1243

1243 × 2 = 2486

2486

(3)

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22. A jar of coffee used to contain 520g.

New packets contain one-fifth less.
Work out how much the new packet contains.

520 ÷ 5 = 104

520 − 104 = 416

416 g

(3)

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23. In February, 1400 trains arrived at a train station.

three tenths of the trains were late.

Work out how many trains were not late.

1400 − 420 = 980

1400 ÷ 10 = 140

140 × 3 = 420

980

(3)

24. 96 adults and 260 children visit a new museum.

$\frac{1}{6}$ of the adults and $\frac{3}{20}$ of the children are surveyed as they leave.

Work out the total number of people surveyed.

96 ÷ 6 = 16 adults surveyed

260 ÷ 20 = 13

13 × 3 = 39 children surveyed

39 + 16 = 55

55

.....

(3)

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25. A large coffee costs £3.20

A medium coffee costs $\frac{3}{4}$ of the price of a large coffee.

Work out the total cost of 5 large coffees and 2 medium coffees.

320 ÷ 4 = 80

80 × 3 = 240

£2.40 (medium)

16 + 4.80 = 20.80

3.20 × 5 = 16.00

2.40 × 2 = 4.80

£20.80

.....

(4)

26. The size of a packet of pasta is increased by one-quarter.
The new size is later reduced by one-quarter.

Is the new packet smaller, the same size or larger than the original?

Explain how you worked out your answer.

method 1

let packet contain 100g

increase by $\frac{1}{4}$ → 125g

decrease by $\frac{1}{4}$ → $125 - 31.25 = 93.75$g

Overall, smaller than original.

method 2 (multiplier)

$y \times 1.25 = 1.25y$

$1.25y \times 0.75 = 0.9375y$

therefore a decrease of 6.25%.

(3)

27.

$\frac{1}{4}$ of 72 = $\frac{2}{3}$ of [27]

Fill in the missing number.

$72 \div 4 = 18$

$18 \div 2 = 9$

$9 \times 3 = 27$

(2)

28. When a bouncy ball is dropped it will rise to $\frac{4}{5}$ of the height it dropped from.

A ball is dropped from a height of 5 metres and is allowed to bounce repeatedly.

Which is the least number of bounces until its rebound height is less than 2 metres?

Show your working.

$\frac{4}{5}$ of 5 = 4m 1st rebound height

$\frac{4}{5}$ of 4 = 3.2m 2nd rebound height

$\frac{4}{5}$ of 3.2 = 2.56m 3rd rebound height

$\frac{4}{5}$ of 2.56m = 2.048m 4th rebound height

$\frac{4}{5}$ of 2.048 = 1.6384m 5th rebound height

5

.....bounces

(3)

29. There are two parties to vote for in a local election, the Purple Party or the Red Party.

21840 people voted in total for the two parties.

$\frac{5}{8}$ of the people who voted were **over 50**.

$\frac{2}{3}$ of the people aged **over 50** voted for the Red Party.

$\frac{9}{10}$ of the people aged **50 or under** voted for the Purple Party.

(a) Which party received the most votes?

21840 ÷ 8 = 2730

2730 × 5 = 13650 (over 50)

21840 − 13650 = 8190 (50 or under)

13650 ÷ 3 = 4550

4550 × 2 = 9100 Red party votes (over 50)

4550 Purple party votes (over 50)

8190 ÷ 10 = 819

819 × 9 = 7371 Purple party (50 or under)

819 Red party (50 or under)

7371 + 4550 = 11921

9100 + 819 = 9919

Purple Party

(3)

(b) How many votes did they win by?

11921 − 9919 = 2002

2002

(2)