

Name: \_\_\_\_\_

## Exam Style Questions

Percentages:  
of an amount (calculator)  
increasing/decreasing by



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

### Guidance

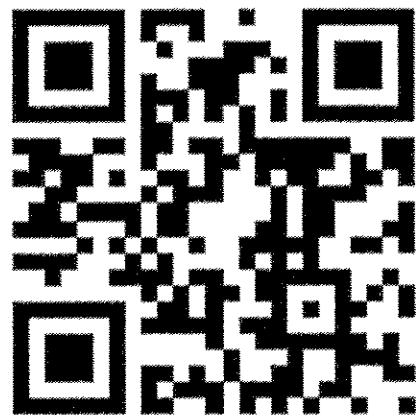
1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

Video 235

Video 238



1. Calculate 7% of 340

$$1\% = 340 \div 100 = 3.4 \quad \text{or} \quad 340 \times 0.07$$

$$7\% = 3.4 \times 7 =$$

$$\begin{array}{r} 23.8 \\ \hline \end{array} \quad (2)$$

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2. Find 56% of \$8200

$$\text{or} \quad 8200 \times 0.56$$

$$1\% = 82$$

$$56\% = 4592$$

$$\begin{array}{r} \$ 4592 \\ \hline \end{array} \quad (2)$$

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3. Calculate 83% of 9000

$$\text{or} \quad 9000 \times 0.83$$

$$1\% = 90$$

$$83\% = 7470$$

$$\begin{array}{r} 7470 \\ \hline \end{array} \quad (2)$$

- 
4. Calculate 3.5% of 140g

$$\text{or} \quad 140 \times 0.035$$

$$1\% = 1.4$$

$$3.5\% = 4.9$$

$$\begin{array}{r} 4.9 \\ \hline \end{array} \text{g} \quad (2)$$

- 
5. Find 18.2% of £25,000

$$\text{or} \quad 0.182 \times 25000$$

$$1\% = 250$$

$$18.2\% = 4550$$

$$\begin{array}{r} £ 4550 \\ \hline \end{array} \quad (2)$$

6. Increase £2400 by 9%

or  $2400 \times 1.09$

$1\% = 24$

$9\% = 216$

$2400 + 216$

£ 2616

(2)

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7. Increase 40 miles by 43%

or  $40 \times 1.43$

$1\% = 0.4$

$43\% = 17.2$

$40 + 17.2$

57.2 miles

(2)

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8. Decrease 18000 by 6%

or  $18000 \times 0.94$

$1\% = 180$

$6\% = 1080$

$18000 - 1080$

16920

(2)

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9. Decrease 712kg by 24%

or  $712 \times 0.76$

$1\% = 7.12$

$24\% = 170.88$

$712 - 170.88$

541.12 kg

(2)

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10. Increase 7900 by 37.4%

or  $7900 \times 1.374$

$1\% = 79$

$37.4\% = 2954.6$

$7900 + 2954.6$

10854.6

(2)

11. Oliver's salary is £18,000 and he is due to get an increase of 4%.  
How much will this increase be?

$$1\% = 180$$

$$4\% = 720$$

or

$$18000 \times 0.04$$

$$\pounds 720 \dots\dots\dots$$

(2)

12. A new TV is priced at £320  
In a sale it is reduced by 45%

Calculate the sale price

$$1\% = 3.2$$

$$45\% = 144$$

$$320 - 144 =$$

or  $320 \times 0.55$

$$\pounds 176 \dots\dots\dots$$

(3)

13. Joanne sees this special offer in a shop.

Special Offer	
iPod	£189
Headphones	£25
Buy both items and receive a 4% discount	

Joanne buys both items.

or  $214 \times 0.96$

How much does she pay?

$$189 + 25 = 214$$

$$1\% = 2.14$$

$$4\% = 8.56$$

$$214 - 8.56$$

$$\pounds 205.44 \dots\dots\dots$$

(3)

14. Barry earns £1300 a month. He spends 30% of this money on rent and 12% on bills.

How much of the £1300 has he left?

$$\begin{array}{l} \text{rent} \\ 1\% = 13 \\ 30\% = 390 \end{array} \quad \begin{array}{l} \text{bills} \\ 1\% = 13 \\ 12\% = 156 \end{array}$$

$$1300 - 390 - 156$$

$$\begin{array}{l} \text{or } 1300 \times 0.3 = 390 \\ 1300 \times 0.12 = 156 \\ 1300 - 390 - 156 = 754 \end{array}$$

$$\begin{array}{r} 754 \\ \hline \text{£} \end{array} \quad (3)$$

15. A carton of orange juice contains 540ml.  
A special offer carton contains an extra 35%.

How many millilitres of orange juice are in the special offer carton?

$$\begin{array}{l} 1\% = 5.4 \\ 35\% = 189 \end{array} \quad \text{or } 540 \times 1.35$$

$$540 + 189$$

$$\begin{array}{r} 729 \\ \hline \text{ml} \end{array} \quad (3)$$

16. There are 52800 fans at a football match between Rovers and City.  
37% of the fans support Rovers.

How many fans at the match support City?

$$63\% \text{ support city.}$$

$$\text{or } 52800 \times 0.63$$

$$\begin{array}{l} 1\% = 528 \\ 63\% = 33264 \end{array}$$

$$\begin{array}{r} 33264 \\ \hline \end{array} \quad (3)$$

17. In 2000 the population of a country was 4,580,000  
By 2015, the population had increased by 18%

Work out the population in 2015

$$1\% = 45800$$
$$18\% = 824400$$

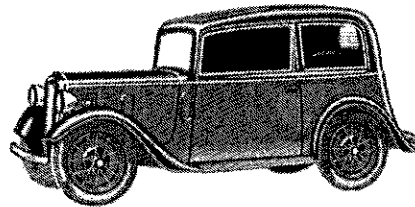
or  $4580000 \times 1.18$

5404400

.....  
(3)

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18.



A vintage car was bought for £9,400  
Since then the value of the car has increased by 29%

Calculate the value of the car.

$$1\% = 94$$
$$29\% = 2726$$

or  $9400 \times 1.29$

£ 12126

.....  
(3)

19. James is buying a table.  
He finds the same table for sale in two different shops.

**Table World**

**£140**

**Prices include VAT**

**Tables'R'us**

**£120**

**Prices do not include VAT**

When buying the table, the rate of VAT was 17.5%

$$1\% = 1.2$$

$$17.5\% = 21$$

Which shop is better value?

You must show your working.

$$120 \times 1.175 = \underline{\underline{141}} \text{ with VAT}$$

*Table World*

(3)

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20. Harriet travelled from Bath to Cardiff.  
Her average speed was 58 miles per hour.

There is traffic on the return journey.  
Her average speed is reduced by 23%

Work out the average speed on the return journey.

$$58 \times 0.77$$

or

$$1\% = 0.58$$

$$23\% = 13.34$$

$$58 - 13.34$$

44.66 mph

(3)

21. Georgina needs to buy petrol for her car.

Her car can hold 70 litres of petrol.

There are already 20 litres of petrol in the tank. Needs 50 litres

Georgina is going to fill up the petrol tank.

The price of petrol is 115.9p per litre

Georgina has a voucher that gives her 3% off the price of petrol.

How much does Georgina have to pay for the petrol?

$$50 \times 115.9 = 5795p \text{ or } \pounds 57.95$$

$$1\% = 0.5795$$

$$3\% = 1.7385$$

She saves  $\pounds 1.74$  (or  $\pounds 1.73$ )

$$\pounds 57.95 - \pounds 1.74$$

$$\begin{array}{r} \pounds 56.21 \\ \hline \text{or } 56.22^{(5)} \end{array}$$



22. The table gives information about the number of people voting for each party at an election.

Party	Number of Votes
Gold Party	12598
Pink Party	9112
Brown Party	20059
Purple Party	4466

*Total 46235*

There are 52852 people who can vote  
The target was that 88% of people would vote.

Was the target met?

$$88\% \text{ of } 52852 = 46509.76 \quad (46509 \text{ or } 46510)$$

*No the target was not met.*

23. A ball is dropped from a height of 3m and is allowed to bounce repeatedly. Each time it rises to a height which is 80% of the height it fell from.

What height does the ball rise to after the second bounce.

$$\begin{aligned} 1^{\text{st}} \text{ bounce} &= 300 \times 0.8 = 240 \text{ cm} \\ 2^{\text{nd}} \text{ bounce} &= 240 \times 0.8 = 192 \text{ cm} \end{aligned}$$

$$\begin{array}{r} 1.92 \\ \hline \text{m} \\ (3) \end{array}$$

24. James bought a house.  
In the first year the value of the house decreased by 10%.  
In the second year the value of the house increased by 10%.

Is the house worth more, less, or the same as what James paid for it?  
Explain your answer.

If the house cost £100,000

$$\begin{aligned} 1^{\text{st}} \text{ year} &= \text{£}90,000 \\ 2^{\text{nd}} \text{ year} &= \text{£}99,000 \end{aligned}$$

£x

$$\begin{aligned} 1^{\text{st}} \text{ year} &= 0.9x \\ 2^{\text{nd}} \text{ year} &= 0.9x \times 1.1 \\ &= 0.99x \end{aligned}$$

overall  $\frac{1.92}{2.00}$  less (3)

25. Cerys wants to invest £4000 for two years.

**Banks 'R' us**  
Compound Interest  
6% for the first year  
1.5% for each extra year

**The Best Bank**  
Compound Interest  
5% for the first year  
2.5% for each extra year

**Southern Bank**  
Compound Interest  
7% for the first year  
0.5% for each extra year

At the end of two years, Cerys wants to have as much money as possible.

Which bank should she invest her £4000 in?

Banks 'R' us      1<sup>st</sup> year = £4240  
                                 2<sup>nd</sup> year = £4303.60

The Best Bank      1<sup>st</sup> year = £4200  
                                 2<sup>nd</sup> year = £4305

Southern Bank      1<sup>st</sup> year = £4280  
                                 2<sup>nd</sup> year = £4301.40

.....  
(4)  
The Best Bank