

1

When you earn money you pay income tax.

The amount you pay depends on how much you earn that year.

You pay

0% on the first £12 500 you earn

20% on the next £37 500 you earn

40% on the next £112 500 you earn.

One year, Kim paid £9260 income tax.

Work out how much she earned that year.

[4 marks]

$$0.2 \times 37\,500 = 7500 \quad (1)$$

$$9260 - 7500 = 1760$$

$$\frac{1760}{0.4} = 4400 \quad (1)$$

$$\begin{aligned} \text{Total income : } 12\,500 + 37\,500 + 4400 & \quad (1) \\ & = 54\,400 \quad (1) \end{aligned}$$

Answer £ 54 400

2

Show that 2125 can be written as

a cube number **multiplied** by a prime number between 10 and 20**[2 marks]**

prime number : 11, 13, 17, 19

2125 is only divisible by 17.

$$2125 \div 17 = 125$$

$$\sqrt[3]{125} = 5 \quad (2)$$

$$\therefore 5^3 \times 17 = 2125$$

- 3** Amol owns a sandwich shop.  
The shop is open from Monday to Saturday.  
In June, Amol sold 3000 sandwiches.
- 3 (a)** Amol wants to work out the mean number of sandwiches he sold per day in June.  
His method is  $3000 \div 30 = 100$   
Make **one** criticism of Amol's method.

[1 mark]

The shop is open less than 30 days.

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4 Work out  $-4 \times -\frac{7}{9}$

Circle your answer.

[1 mark]

$$-\frac{28}{36}$$

$$-\frac{28}{9}$$

$$\frac{28}{36}$$

$$\frac{28}{9}$$

$$1$$

5

Write a number in each box to make the calculations correct.

[2 marks]

$$\boxed{10} \div \boxed{-2} \times \boxed{-1} = \boxed{5}$$

*(Handwritten red checkmark and circled 1)*

$$\boxed{\frac{1}{3}} \times \boxed{4\pi} \times \boxed{6} = \boxed{8\pi}$$

*(Handwritten red checkmark and circled 1)*