

**HIGHER TIER
MINI PRACTICE EXAM 3**

**NON-CALCULATOR
20 MINUTES ALLOWED**

1.

(a) Work out $0.1 + \frac{3}{8}$. Give your answer as a fraction.

$$\frac{1}{10} + \frac{3}{8} = \frac{8}{80} + \frac{30}{80} = \frac{38}{80} = \frac{19}{40}$$

(2)

(b) Work out $\frac{1}{4} \div 2.5$. Give your answer as a decimal.

$$\frac{1}{4} \div \frac{5}{2} = \frac{1}{4} \times \frac{2}{5} = \frac{2}{20} = \frac{1}{10} = \underline{0.1}$$

(2)

2.

(a) Express $0.\dot{3}5\dot{4}$ as a fraction. Give your answer in its simplest terms.

$$\begin{aligned} x &= 0.\dot{3}5\dot{4} \\ 1000x &= 354.\dot{3}54 \\ 999x &= 354 \end{aligned}$$

$$x = \frac{354}{999} = \frac{118}{333}$$

(3)

(b) Put the following numbers in order, smallest to largest.

0.354

0.35 $\dot{4}$

0.354

0.354

$$0.\dot{3}54 = 0.354354\dots$$

$$0.354 = 0.354545\dots$$

$$0.354 = 0.354444\dots$$

$$0.354 = 0.35400\dots$$

$$0.354, 0.35\dot{4}, 0.354, 0.354$$

(2)

3.

Chris buys and sells pens.

He bought 500 pens for 12p each.

He sold 200 of the pens for 29p each.

The rest of the pens remained unsold.

Work out Chris's profit or loss, in pounds.

$$500 \times 12 = 6000 \text{ p} = \text{£}60$$

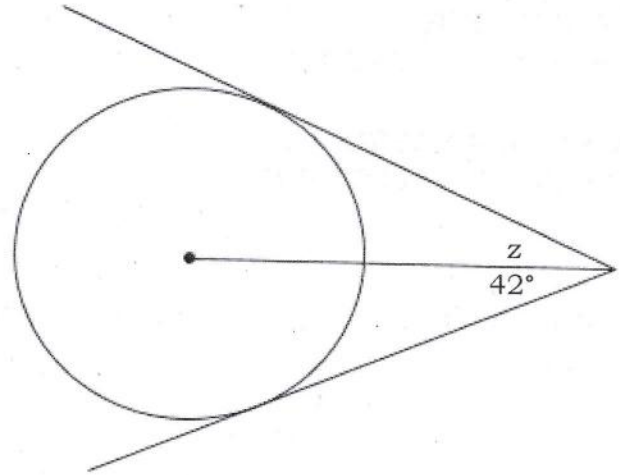
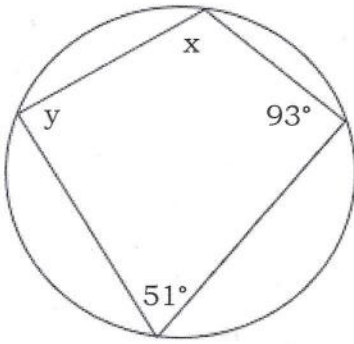
$$200 \times 29 = 5800 \text{ p} = \text{£}58$$

$$60 - 58 = \text{£}2$$

£2 loss

(3)

4.
Find x , y and z .



$$x = 180 - 51 = 129^\circ$$

$$y = 180 - 93 = 87^\circ$$

$$x = 129^\circ$$

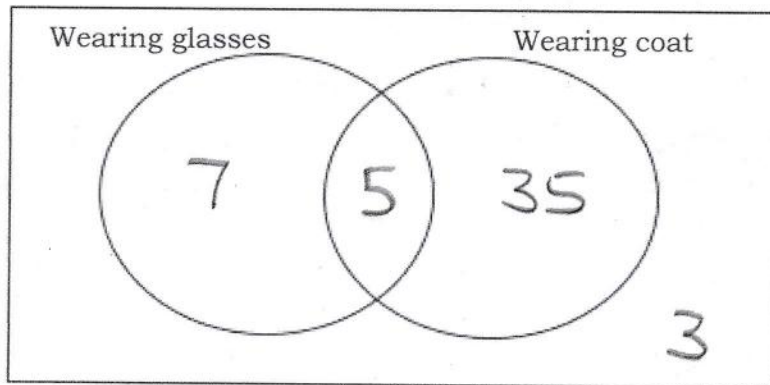
$$y = 87^\circ$$

$$z = 42^\circ$$

(3)

5.
There are 50 people waiting on a platform at a train station.
38 of them are not wearing glasses.
One eighth of the people who are wearing a coat are wearing glasses.
7 people are wearing glasses but not a coat.

(a) Complete the Venn diagram below.



$$38 + 7 = 45$$

$$50 - 45 = 5$$

$$\frac{1}{8} = 5$$

$$\text{wearing coat} = 8 \times 5 = 40 - 5 = 35$$

(4)

(b) A person wearing glasses is chosen at random. What is the probability that this person is **not** wearing a coat?

$$\frac{7}{12}$$

(1)