

**HIGHER TIER  
MINI PRACTICE EXAM 8**



**NON-CALCULATOR  
20 MINUTES ALLOWED**

1.

(a) Circle the fraction that is equivalent to  $\frac{3}{4}$ .

$$\frac{9}{15}$$

$$\frac{21}{32}$$

$$\frac{15}{20}$$

$$\frac{6}{10}$$

(1)

(b) Circle the number that is not equivalent to  $\frac{2}{5}$ .

$$\frac{8}{20}$$

$$\frac{10}{25}$$

$$\frac{12}{30}$$

$$0.2$$

(1)

2.

(a) Circle the value of  $\tan(60)$ .

$$\sqrt{2}$$

$$\sqrt{3}$$

$$0.25$$

$$1$$

(1)

(b) Given that  $\sin(a) = x$ , circle the value that  $x$  cannot be.

$$\sqrt{2}$$

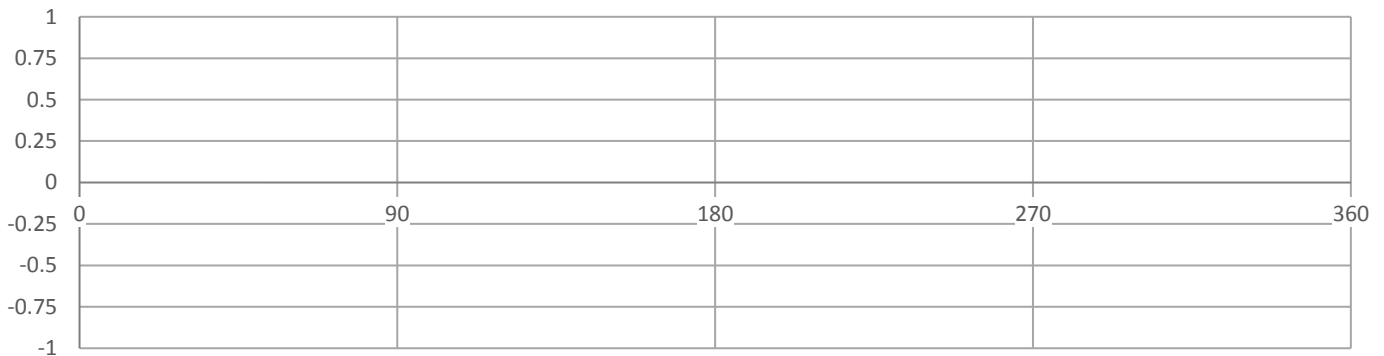
$$-0.5$$

$$0.5$$

$$1$$

(1)

(c) On the axis below, plot the graph of  $y = \cos(x)$  for  $x = 0$  to  $360$ .



(2)

3.

Solve the simultaneous equations:

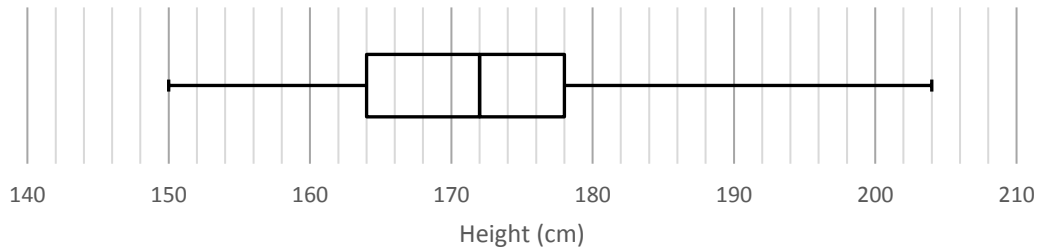
$$2x + y = 15$$

$$3x - 2y = 12$$

(3)

4.

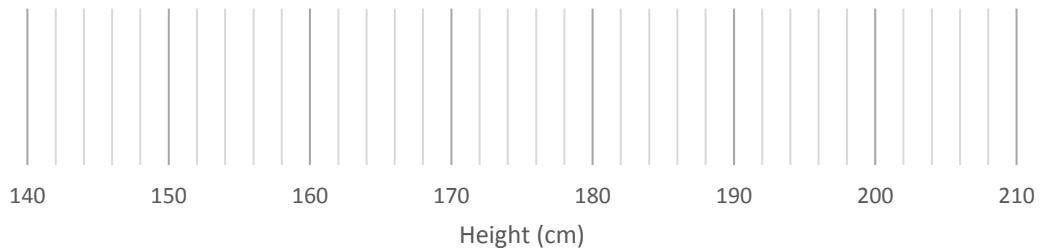
The heights of a group of men are shown on the below box plot.



A group of women have a median height of 164 cm, a minimum height of 142 cm and a maximum height of 188 cm.

The upper quartile of the women is 170 cm, and the interquartile range is the same as the men's.

(a) On the axis below, draw a box plot for the women.



(3)

(b) What percentage of the women have a height less than 156 cm?

(1)

5.

Solve  $2y^2 - 5y - 12 > 0$

(4)

6.

Find x.

$$\frac{16^{x-2}}{8^x} = 64$$

(4)