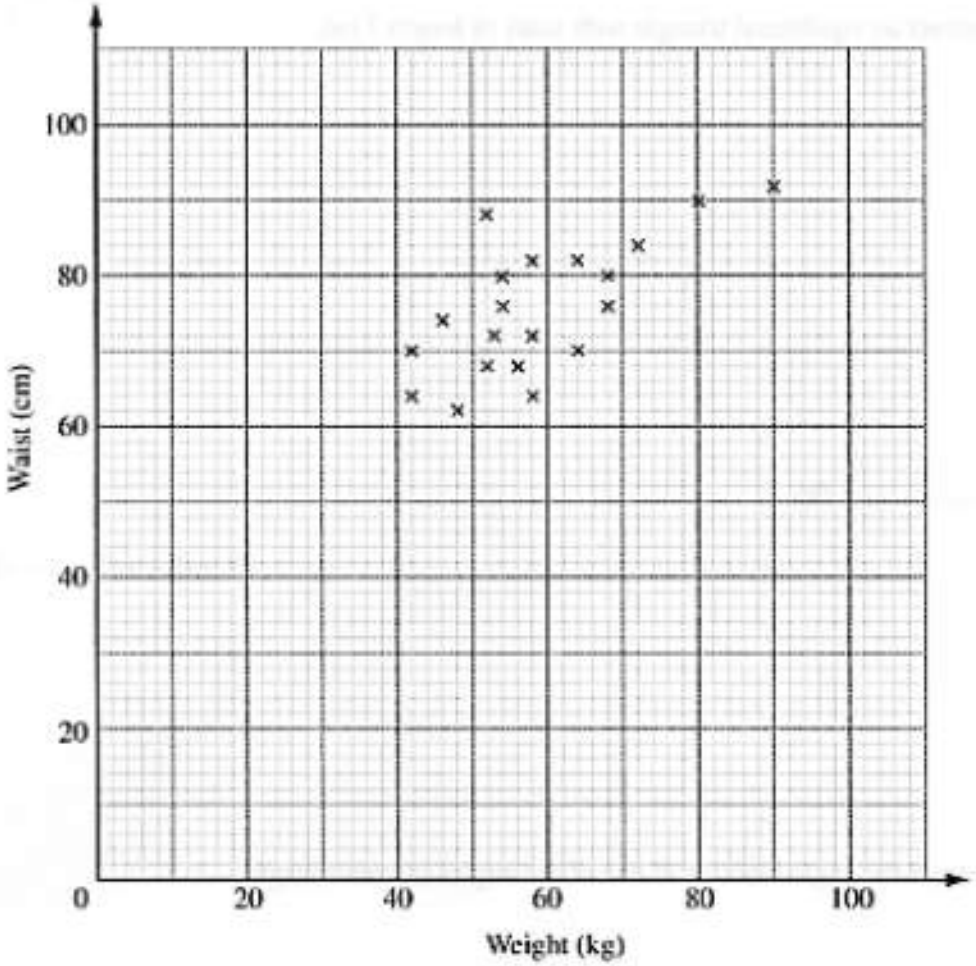
1 This scatter diagram shows the weight and waist measurements of 20 boys.



Another boy has a waist measurement of 78 cm.

Draw a line of best fit and use it to estimate his weight.

.....kg [2]

[2]

2 Find the highest common factor (HCF) of 12 and 20.

.....[2]

[2]

3 **In this question you should use only ruler and compasses.**
You must show your construction lines.

(a) Construct an equilateral triangle with sides of length 7 cm.

[2]

(b) Construct the angle bisector of one of the angles of your triangle. [2]

4

4 Calculate.

(a) $1\frac{2}{3} - \frac{1}{4}$

(a) .....[2]

(b) $\frac{3}{5} \div \frac{2}{3}$

(b) .....[2]

4

5 Solve.

(a) $\frac{9x - 15}{4} = x$

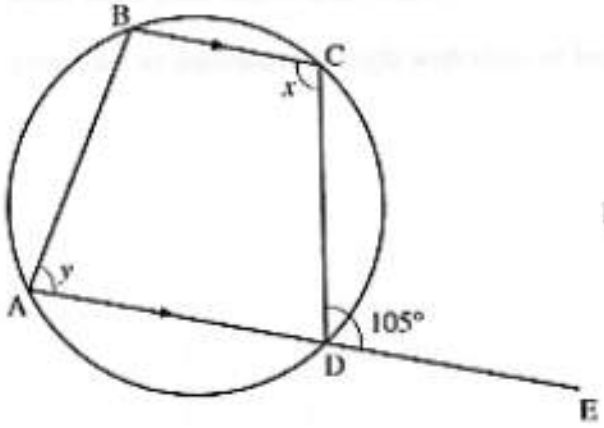
(a) .....[3]

(b) $3(2x - 1) - 2(x - 4) = 19$

(b) .....[4]

7

6



Not to scale

ADE is a straight line.
BC is parallel to AE.

Work out angles x and y, giving reasons for your answers.

$x =$ .....° because .....

.....[2]

$y =$ .....° because .....

.....[2]

[4]

7 Rearrange the formula $C = \frac{3r}{4}$ to make r the subject.

.....[2]

[2]