

# HOME EXERCISE 5

Set out carefully all appropriate working.

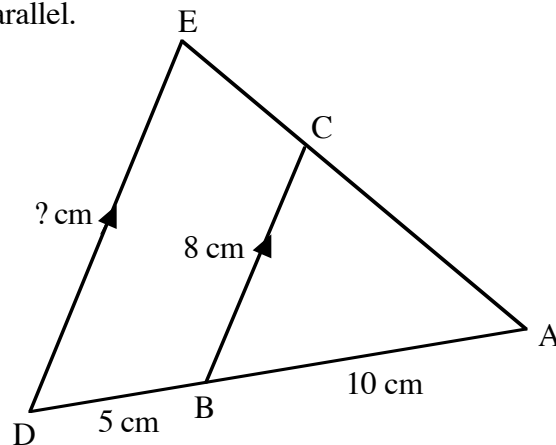
1. Evaluate:  $4\frac{7}{8} \div 2\frac{1}{4} \div \frac{2}{3}$  (3)

2. In the diagram shown lines BC and DE are parallel.

(a) Calculate the length of side DE. (3)

(b) Triangle ABC has an area of  $36 \text{ cm}^2$   
Calculate the area of triangle ADE. (2)

(c) Calculate the area of trapezium BCED. (1)



3. Factorise: (a)  $a^2 - 7a - 18$  (b)  $3p^2 + 7p - 6$  (3)

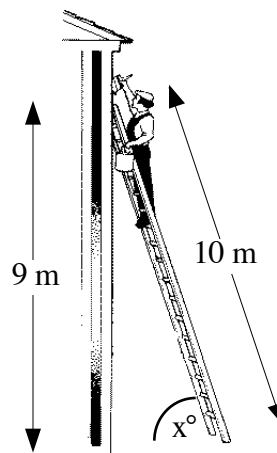
4. Solve the system of equations **algebraically**:  

$$\begin{aligned} 3x + 2y &= 7 \\ 4x - 3y &= 15 \end{aligned}$$
 (4)

5. Peter is painting the side of his house.

To be safe the ladder should make an angle of  $70^\circ \pm 5^\circ$  with the ground.

Peter is using a ladder 10 metres long, arranged so that the ladder is touching the wall at a height of 9 metres above the ground, as shown in the diagram.



Is the ladder safe? (4)

Justify your answer with appropriate working.

**Total 20 marks**