# HOME EXERCISE 10

**Set out carefully all appropriate working.**

Do **not** use a calculator in questions 1, 2, 3 or 4.
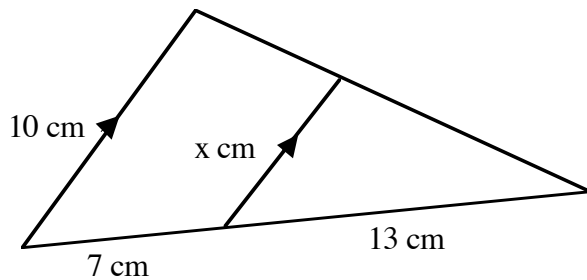Use a calculator in questions 5 and 6.

1. Evaluate: $\frac{5}{6} - \frac{1}{3} \times \frac{4}{5}$ (3)

2. Remove the brackets and simplify fully: $(5y - 3)(y - 1) - 2y(y - 4)$ (3)

3. If $a=-4$ and $b=-3$, evaluate: $a^2 - b$ (2)

4.



10 cm

x cm

7 cm

13 cm

In the diagram shown two parallel lines are indicated.

Find the value of x. (4)

5.



C

18 cm

? cm

A

D

24 cm

34 cm

B
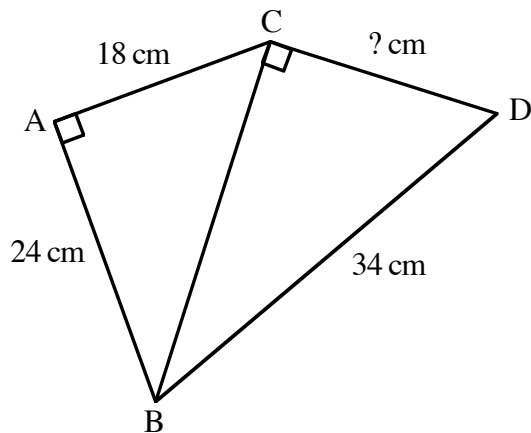
Triangles ABC and BCD are right-angled as shown.

Calculate the length of CD. (4)

6. The speed of light is $2 \cdot 998 \times 10^5$ kilometres per **second**.
   A planet is $6 \cdot 254 \times 10^8$ kilometres from a star.

   Calculate the time it takes, in **minutes**, for light from the star to reach the planet. (4)
   Write your answer correct to **3 significant figures**.

**Total 20 marks**