HOME EXERCISE 11
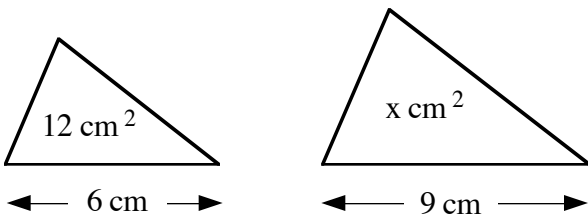
Set out carefully all appropriate working.

Do **not** use a calculator in any questions.

1. Evaluate: $\dfrac{3600 - 600 \times 4}{38 + 22}$ (3)

2. Remove the brackets and simplify: $(x + 2)(x^2 + 3x - 5)$ (2)
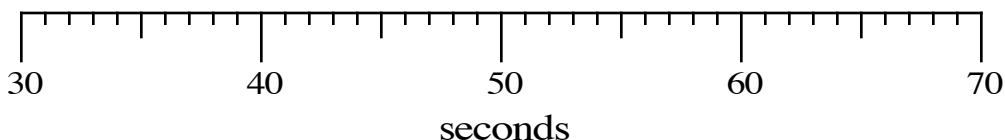
3. Solve the equation: $(x + 3)^2 = (x + 5)(x - 1)$ (5)

4.

The triangles shown are similar.

12 cm^2 x cm^2

⟵ 6 cm ⟶   ⟵ 9 cm ⟶   Find the value of x.   (3)

5. In a training session 19 students took part on a timed run.

   The results were recorded and are shown in the stem-and-leaf diagram.

Time (seconds)

```
3 | 7  9
4 | 0  2  3  6  6  8
5 | 1  2  4  4  5  7  9
6 | 0  2  5  7
```

n = 19   3 | 7 = 37

(a) Make a five figure summary of the data.   (4)
(b) Construct a boxplot to illustrate this information. (scale below)   (2)
(c) Calculate the semi-interquartile range.   (1)

Time

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 |‖‖‖‖‖|‖‖‖‖‖|‖‖‖‖‖|‖‖‖‖‖|‖‖‖‖‖|
30       40       50       60       70
```

seconds

Total 20 marks