HOME EXERCISE 14

Set out carefully all appropriate working.

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

1. Solve the equation: $(x+2)^2 = 16 - x(2-x)$ (4)

2. Solve the system of equations **algebraically**: $\begin{aligned} a + 4b &= 12 \\ 2a - 3b &= 2 \end{aligned}$ (4)

3.

| Race Times					
1st	**9:20**	8th	**10:12**	14th	**10:89**
2nd	**9:34**	9th	**10:18**	15th	**11:50**
3rd	**9:52**	10th	**10:30**	16th	**11:75**
4th	**9:64**	11th	**10:43**	17th	**12:16**
5th	**9:70**	12th	**10:57**	18th	**12:53**
6th	**9:88**	13th	**10:66**	19th	**12:70**
7th	**9:95**				

race times

The table shows the results of a race involving 19 runners.

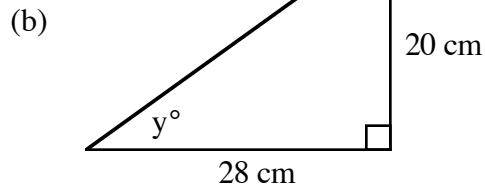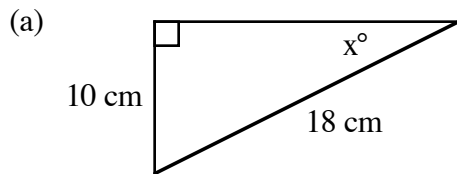The times shown are in seconds and hundredths of an second.

(a) Construct a boxplot to illustrate this information. (5)
(scale below)

(b) Calculate the semi-interquartile range. (1)

seconds
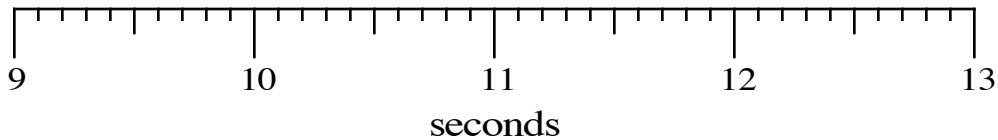
4. The triangles shown are right-angled.

(a)

10 cm
x°
18 cm

(b)

20 cm
y°
28 cm

Calculate the values of x and y, correct to one decimal place. (6)

Total 20 marks