

1 Solve $(x - 2)^2 = 3$

Give your solutions correct to 3 significant figures.

.....
(Total for Question 1 is 2 marks)

2 Solve $x^2 = 5x + 24$

.....
(Total for Question 2 is 3 marks)

3 (a) Expand and simplify $(x - 2)(2x + 3)(x + 1)$

.....
(3)

$$\frac{y^4 \times y^n}{y^2} = y^{-3}$$

(b) Find the value of n .

.....
(2)

(c) Solve $5x^2 - 4x - 3 = 0$
Give your solutions correct to 3 significant figures.

.....
(3)

(Total for Question 3 is 8 marks)

4 Solve $\frac{1}{x} - \frac{1}{x+1} = 4$

Give your answer in the form $a \pm b\sqrt{2}$ where a and b are fractions.

.....
(Total for Question 4 is 5 marks)

5 Solve $6x^2 + 5x - 6 = 0$

.....
(Total for Question 5 is 3 marks)

6 Solve $\frac{1}{2x-1} + \frac{3}{x-1} = 1$

Give your answer in the form $\frac{p \pm \sqrt{q}}{2}$ where p and q are integers.

.....
(Total for Question 6 is 4 marks)

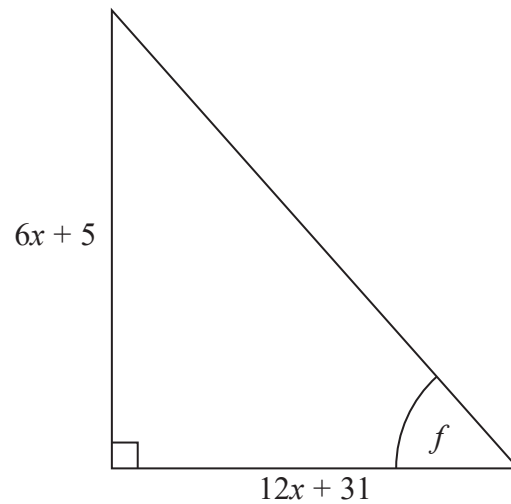
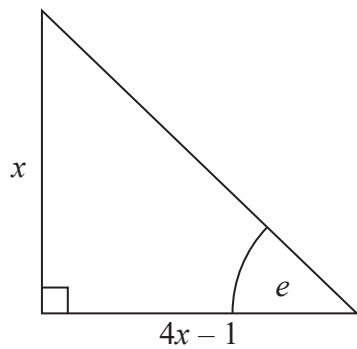
7 Given that

$$x^2 : (3x + 5) = 1 : 2$$

find the possible values of x .

.....
(Total for Question 7 is 4 marks)

8 Here are two right-angled triangles.



Given that

$$\tan e = \tan f$$

find the value of x .

You must show all your working.

.....
(Total for Question 8 is 5 marks)