1 $x = 3$

(a) Work out the value of $4x^2$

.....

(1)

(b) Solve $5x + 4 = 14 + x$

$x =$ .....

(2)

(Total for Question 1 is 3 marks)

---

2 Sweets are sold in bags and in tins.

There are 20 sweets in a bag.
There are 30 sweets in a tin.

Lee buys B bags of sweets and T tins of sweets.

He buys a total of S sweets.
Write down a formula for S in terms of B and T.

.....

(Total for Question 2 is 3 marks)

3 (a) Solve $13x + 1 = 11x + 8$

$x =$ .....

(2)

(b) Show that $y = -2$ is a solution of the equation $\frac{4}{y} + y = 2y$

(2)

(Total 4 marks)

4 (a) Simplify $5x + 4y + x - 7y$

.....

(2)

(b) Solve $7(x + 2) = 7$

.....

(2)

(Total for Question 4 is 4 marks)

5 (a) Solve $3x - 5 < 16$

.....

(2)

(b) Solve $\dfrac{11 - w}{4} = 1 + w$

$w =$ .....

(3)

(Total for Question 5 is 5 marks)

6 Solve $x^2 = 4(x - 3)^2$

.....

(Total for Question 6 is 3 marks)

7

(a) Solve $\frac{4(8x - 2)}{3x} = 10$

.....

(3)

(b) Write as a single fraction in its simplest form

$$\frac{2}{y + 3} - \frac{1}{y - 6}$$

.....

(3)

(Total for Question 7 is 6 marks)

8 Solve $\dfrac{5(2x+1)^2}{4x+5} = 5x - 1$

.....

(Total 5 marks)

9 (a) Solve $2x^2 + 9x - 7 = 0$

Give your solutions correct to 3 significant figures.

.....

(3)

(b) Solve $\frac{2}{y^2} + \frac{9}{y} - 7 = 0$

Give your solutions correct to 3 significant figures.

.....

(2)

(Total for Question 9 is 5 marks)

10 (a) Solve $5(f-3)=f+10$

.....

(3)

(b) Solve $\frac{h+7}{3}+\frac{2h-1}{2}=\frac{5}{6}$

.....

(4)

(Total for Question 10 is 7 marks)

11 Solve $3x^2 - 5x - 1 = 0$

Give your solutions correct to 3 significant figures.

.....

(Total for Question 11 is 3 marks)

12 Solve $3x^2 - 4x - 2 = 0$
Give your solutions correct to 3 significant figures.

.....

(Total for Question 12 is 3 marks)

13

Solve $\frac{4x - 1}{5} + \frac{x + 4}{2} = 3$

$x =$ .....

(Total for Question 13 is 3 marks)

14 Solve $3x^2 + 6x - 2 = 0$
Give your solutions correct to 2 decimal places.

.....

(Total for Question 14 is 3 marks)

15 Solve the equation $3x^2 + 4x - 12 = 0$
Give your solutions correct to 2 decimal places.

.....

(Total for Question 15 is 3 marks)

16 Alison is using the quadratic formula to solve a quadratic equation.
She substitutes values into the formula and correctly gets

$$x = \frac{-7 \pm \sqrt{49 - 32}}{4}$$

Work out the quadratic equation that Alison is solving.
Give your answer in the form $ax^2 + bx + c = 0$, where a, b and c are integers.

.....

(Total for Question 16 is 3 marks)

17 Solve the equation $\frac{x}{2} - \frac{2}{x+1} = 1$

.....

(Total 4 marks)