

Topic 4 Algebra 2 (Post-TT) [38]

1.

Solve the equation $2(x + 5) = 7 - 4x$

(Total 3 marks)

2.

Make x the subject of the formula

$$w = x^2 + y$$

(Total 2 marks)

3.

Solve the inequalities:

(a) $2x - 15 < 7$

(b) $9 - 6x > 21$

(Total 4 marks)

4.

Make t the subject of the formula $u = \frac{t}{3} + 5$

(Total 2 marks)

5.

Solve the equation

$$4(x + 3) = 9(x - 2)$$

(3)

(Total 3 marks)

6.

The diagram shows a right-angled triangle.



All the angles are in degrees.

Work out the size of the smallest angle of the triangle.

(Total 3 marks)

7.

Find the largest integer value of x that satisfies the inequality $2(8 - 4x) > 64$

(Total 3 marks)

8.

Solve the equations $\frac{12-y}{3} = 5$

(3)
(Total 3 marks)

9.

Alexander, Reiner and Wim each watch a different film.

- Alexander's film is thirty minutes longer than Wim's film.
- Reiner's film is twice as long as Wim's film.
- Altogether the films last 390 minutes.

How long is each of their films?

(Total 4 marks)

10.

Solve the equations

(a) $\frac{20}{x} = 4$

(2)

(b) $\frac{y}{3} + 5 = 9$

(2)

(c) $4(z - 1) = 2(z + 3)$

(3)
(Total 7 marks)

11.

Rearrange $y = \frac{xy+2}{3x-4}$

to make x the subject.

Simplify your answer as much as possible.

(Total 4 marks)