

page 1 of 3

Jakob Lewis

1901440

03/11/2020

Q1)

i) ~~x~~ x^9

ii) $12x^6$

iii) $\frac{3x^9}{x^9} = 3x$

iv) $9x^5$

v) x^2

Q2) i) $15x - 2 = 12x + 9$

$$15x = 12x + 11$$

$$3x = 11$$

$$x = 3.67$$

ii) $3(7x - 1) = 6(x + 3)$

$$21x - 3 = 6x + 18$$

$$21x = 6x + 21$$

$$15x = 21$$

$$x = 1.4$$

iii)

$$\frac{5x + 3}{4}$$

=

$$\frac{2x - 1}{9}$$

Q3)

i) $x^2 + 10x + 21 = 0$

$(x+3)(x+7) = 0$

$x+3=0$ or $x+7=0$

$x = -3$ or $x = -7$

page 2 of 3

1901440

Jakob Lewis

ii) $x^2 - 3x + 2 = 0$

$(x-1)(x-2) = 0$

$x = 1$ or $x = 2$

~~page 3 of 3~~
~~1901440~~
~~Jakob Lewis~~

iii) $x^2 + 12x + 20 = 0$

$(x+2)(x+10) = 0$

$x = -2$ or $x = -10$

iv) $x^2 - 64 = 0$

$(x+8)(x-8) = 0$

$x = 8$ or $x = -8$

v) $2x^2 + 9x + 10 = 0$

Q4) $14x^2 + 3x = 11$ $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$a = 14$ $b = 3$ $c = -11$

$$\frac{-3 \pm \sqrt{3^2 - 4 \times 14 \times -11}}{2 \times 14}$$

$$x = \frac{-3 + \sqrt{625}}{28} =$$

$$x = \frac{-3 - \sqrt{625}}{28} =$$

$x = -9$

or

$x = 0.79$

$$\begin{aligned} \text{Q5)} \quad 5x + 3y &= 39 \\ 8x - 2y &= 42 \end{aligned}$$

Page 3 of 3
1901440
J. Lewis

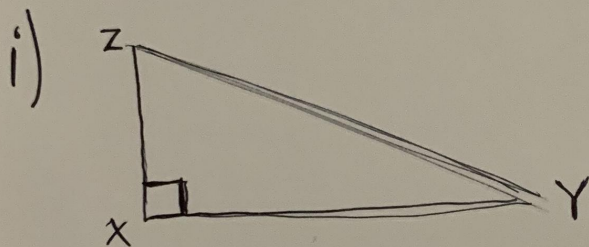
Q6)

$$5(2x^2 - y^2) - x^2(x^2 - y) - x^2y - x^4$$

~~$$10x^2 - 5y^2$$~~

$$(10x^2 - 5y^2) - (x^4 - x^2y) - x^2y - x^4 = x^4$$

Q7)



ii

iii) $a^2 + b^2 = c^2$

$$4^2 + 7^2 = \underline{\underline{8.1}}$$

Q8)

i) $3\sqrt{x} = x^{-3}$

ii) $1 = x^1$