

Quiz 3

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. pg.33#8o (2 marks) Simplify:

$$\begin{aligned} \left(\frac{27x^{-3}}{64y^{-3}}\right)^{-\frac{1}{3}} &= \left(\frac{64y^{-3}}{27x^{-3}}\right)^{\frac{1}{3}} \\ &= \frac{\sqrt[3]{64} y^{-1}}{\sqrt[3]{27} x^{-1}} \\ &= \frac{4x}{3y} \end{aligned}$$

Question 2. pg.44#7i (4 marks) Solve the quadratic equation, do not use the quadratic formula:

$$3x^2 - 5x + 2 = 0$$

$$3x^2(2) = 6x^2 = ab \quad \text{s.t.} \quad a+b = -5x$$

$$-2x - 3x = -5x$$

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

$$0 = x(3x-2) - 1(3x-2)$$

$$0 = (3x-2)(x-1)$$

$$3x-2=0$$

$$3x=2$$

$$x = \frac{2}{3}$$

$$x-1=0$$

$$x=1$$

Question 3. pg.54#6a (4 marks) Find a quadratic equation with the given solutions:

$$\pm\sqrt{5}$$

method A:

$$x = \pm\sqrt{5}$$

$$x^2 = (\pm\sqrt{5})^2$$

$$x^2 = 5$$

$$x^2 - 5 = 0$$

method B:

$$(x - (\sqrt{5}))(x - (-\sqrt{5})) = 0$$

$$(x - \sqrt{5})(x + \sqrt{5}) = 0$$

$$x^2 - \sqrt{5}x + \sqrt{5}x - 5 = 0$$

$$x^2 - 5 = 0$$