

$$5x^2 - 8x + 2 = 0 \quad \pm (x+3)(x+5) - 13 + 4x^2$$

$$R: x = \frac{8 \pm 2\sqrt{6}}{10} = 1.28979795 \quad x = \frac{8 - 2\sqrt{6}}{10} = 0.310202051$$

30/11/2018

$$f) 2x^2 - 5x + 1 = 0 \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(2)(1)}}{2(2)}$$

$$x = \frac{5 \pm \sqrt{25 - 8}}{4} = x = \frac{5 \pm \sqrt{17}}{4} \times 4 = 20 \pm \sqrt{68}$$

$$\left. \begin{array}{l} x = \frac{5 + \sqrt{17}}{4} \checkmark \\ x = \frac{5 - \sqrt{17}}{4} \checkmark \end{array} \right\}$$

4) Combining exponents in:

$$a) a^2 a^3 = a^{2+3} = a^5 \quad c) s^2 s^3 = s^{2+3} = s^5 \quad e) b^6 b^2 = b^{6+2} = b^8$$

$$b) (a^2)^3 = a^{2 \times 3} = a^6 \quad d) a^4 / a^8 = a^{4-8} = a^{-4} \quad f) (x^2 y^5) / (x^4 y^5) =$$

$$x^{2-4} y^{5-5} = x^{-2} y^0$$

5) Find the value of:

$$a) \sqrt{12} \times \sqrt{3} = \sqrt{12 \times 3} = \sqrt{36} = 6 \quad b) \sqrt{8} \div \sqrt{2} = \sqrt{8 \div 2} = \sqrt{4} = 2$$

$$c) \sqrt{18} \times \sqrt{8} = \sqrt{18 \times 8} = \sqrt{144} = 12 \quad d) \sqrt{56} \div \sqrt{14} = \sqrt{56 \div 14} = \sqrt{4} = 2$$

6) Find the roots of $x^3 - 5x^2 + 2x + 8 = 0$.

$$(-1)^3 - 5(-1)^2 + 2(-1) + 8 = (-1) - 5 - 2 + 8 = -8 + 8 = 0 \quad \checkmark$$

$$(2)^3 - 5(2)^2 + 2(2) + 8 = 8 - 20 + 4 + 8 = -20 + 20 = 0 \quad \checkmark$$

$$(4)^3 - 5(4)^2 + 2(4) + 8 = 64 - 80 + 8 + 8 = 80 - 80 = 0 \quad \checkmark$$

$$(x+1) \sqrt{x^3 - 5x^2 + 2x + 8} = 0 \quad \text{Factor } (x^2 + 4x - 6) + 2$$

$$x^2 \quad x^3 + x^2 \quad (x+1)(x^2 + 4x + 8)$$

$$4x \quad -4x^2 + 4x \quad x^3 + 4x^2 + 8x + x^2 + 4x + 8$$

$$-6 \quad 4x^2 + 8x \quad x^3 + 5x^2 + 12x + 8$$

$$-6x - 6 \quad -x - 6$$

$$6x - 2 \quad -x - 6$$

7) Verify the answer to problem 6 by graph.

-P41-

CHAPTER 3. THE MEANING OF PLANE GEOMETRY

42. INTRODUCTION

02/12/2018

As part of our primitive heritage, we tend to react towards to what what is different. In our thinking, is an easy transition from different to "strange" to "foreign" to "enemy", and when we classify anything as enemy, we reject it and try to destroy it. But when things take on air of familiarity, we no longer fear them - what we know and understand, we accept. Apparently, then, mutual understanding is an indispensable

2020/10/13