

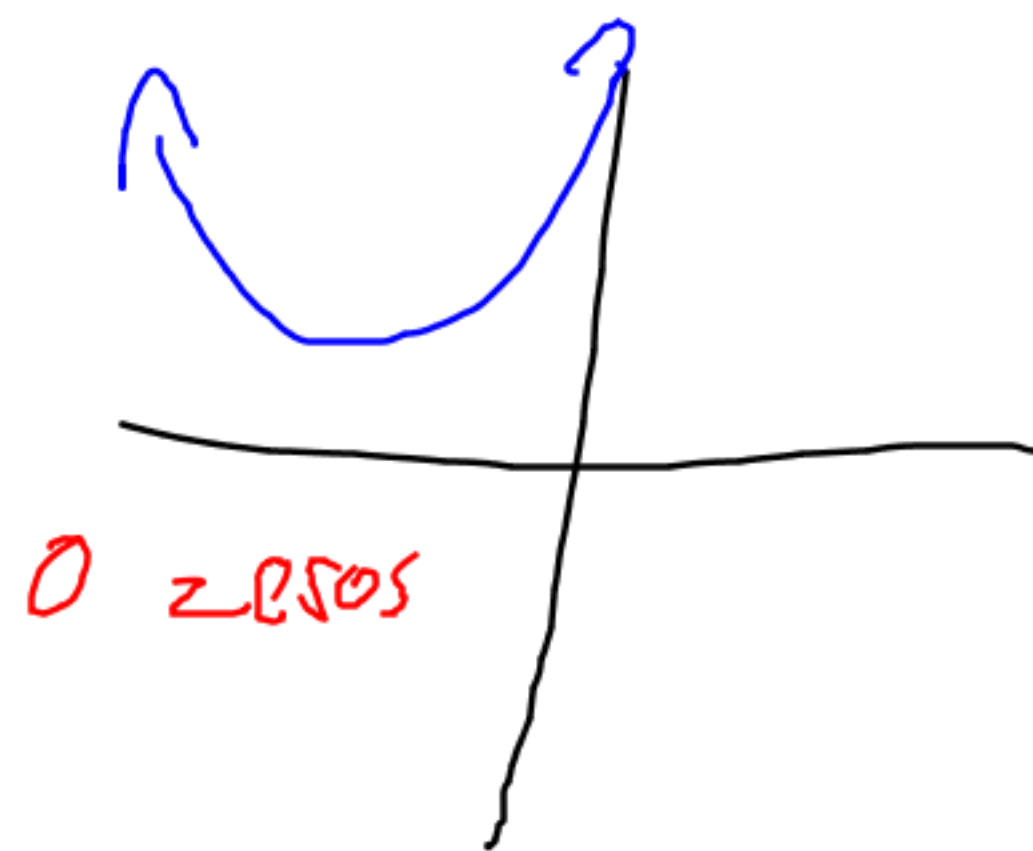
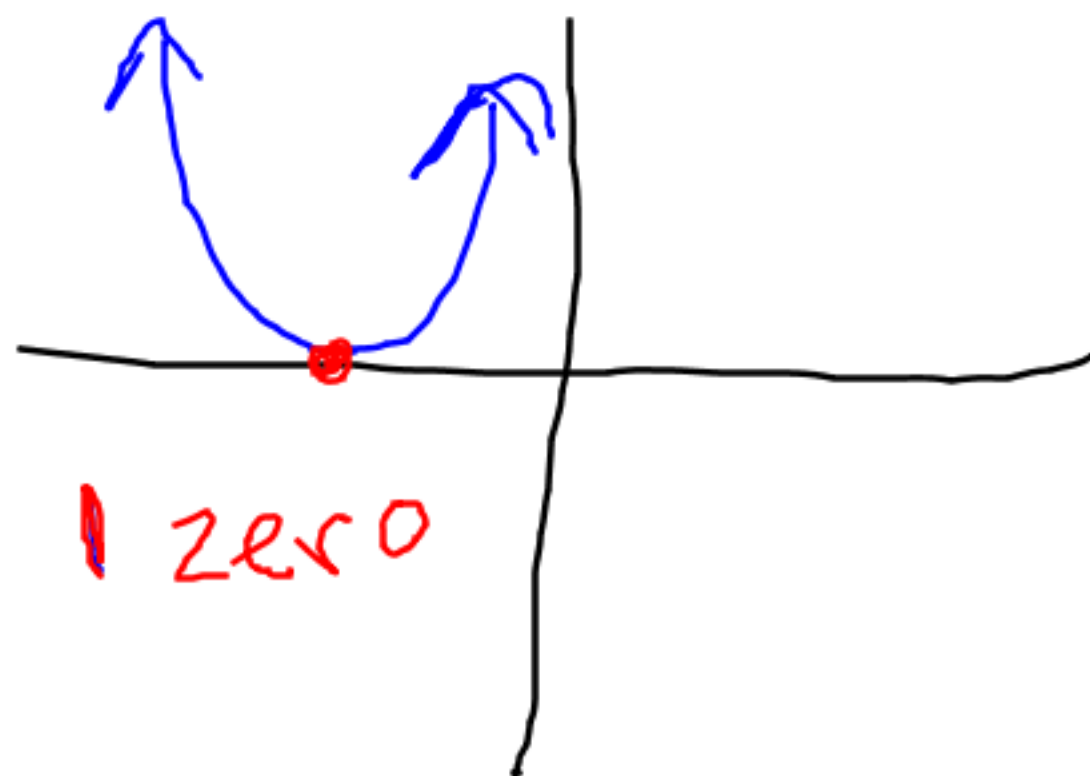
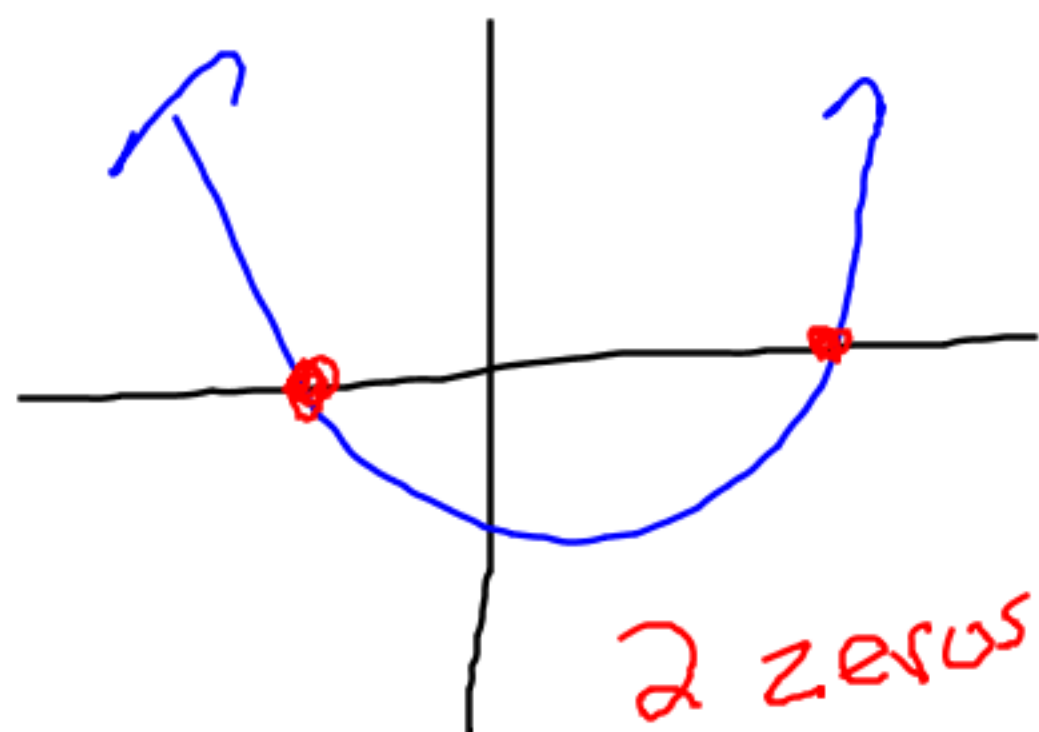
Mathematics 10D

6.4 – Quadratic Formula

Mr. D. Hagen

$$0 = ax^2 + bx + c$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



$$2x^a - 9x^b - 5^c = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{9 \pm \sqrt{(-9)^2 - 4(2)(-5)}}{2(2)}$$

$$x = \frac{9 \pm \sqrt{81 + 40}}{4}$$

$$x = \frac{9 \pm \sqrt{121}}{4}$$

$$x = \frac{9 \pm 11}{4}$$

$$x = \frac{9 + 11}{4}$$

$$\underline{x = 5}$$

$$x = \frac{9 - 11}{4}$$

$$\underline{x = -\frac{1}{2}}$$

$$0 = \overset{a}{1}x^2 - \overset{b}{30}x + \overset{c}{225}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{30 \pm \sqrt{(-30)^2 - 4(1)(225)}}{2}$$

$$x = \frac{30 \pm \sqrt{900 - 900}}{2}$$

$$x = \frac{30 \pm \sqrt{0}}{2}$$

$$x = \frac{30}{2}$$

$$x = 15$$

~~15~~

$$0 = 3x^2 + 2x + 15$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-2 \pm \sqrt{2^2 - 4(3)(15)}}{2(3)}$$

$$x = \frac{-2 \pm \sqrt{4 - 180}}{6}$$

$$x = \frac{-2 \pm \sqrt{-176}}{6}$$

cannot
square root
a negative!

no solutions

$$2x^2 - 5x = 1 \Rightarrow$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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

$$x = \frac{5 \pm \sqrt{25 + 8}}{4}$$

$$\underset{a}{2}x^2 - \underset{b}{5}x - \underset{c}{1} = 0$$

$$x = \frac{5 \pm \sqrt{33}}{4}$$

$$x = \frac{5 \pm 5.74}{4}$$

$$x = \frac{5 + 5.74}{4}$$

$$x = 2.69$$

$$x = \frac{5 - 5.74}{4}$$

$$x = -0.185$$