

12 Quiz 12 MAT 1275 Professor Chiu

Name: _____

- This quiz consists of **2** questions, each worth 5 points for a total of **10** points.
- You have **15** minutes to complete the quiz.
- Show all work and justify your answers.
- Scientific calculators are allowed.
- Wishing you success.

1. Solve

$$\textcircled{1} \quad 5 = (\pm\sqrt{5})^2 \Rightarrow (2x-1)^2 = 5 = (\pm\sqrt{5})^2$$

$$\textcircled{2} \quad \text{Use "\sqrt{\quad}" to cancel "square"} \Rightarrow \sqrt{(2x-1)^2} = \sqrt{(\pm\sqrt{5})^2} \Rightarrow 2x-1 = \pm\sqrt{5}$$

$$\textcircled{3} \quad \text{isolate "x"} \Rightarrow 2x = 1 \pm \sqrt{5} \Rightarrow \frac{2x}{2} = \frac{1 \pm \sqrt{5}}{2} \Rightarrow x = \frac{1 \pm \sqrt{5}}{2}$$

2. Solve

$$\textcircled{1} \quad \text{Quadratic formula}$$

Solve " $Ax^2+Bx+C=0$ ",

$$X = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$$

$$x^2 + 4x + 2 = 0$$

$$A=1, B=4, C=2$$

$$X = \frac{-4 \pm \sqrt{16 - 4 \cdot 1 \cdot 2}}{2}$$

$$= \frac{-4 \pm \sqrt{8}}{2} \rightarrow 8 = 2^2 \cdot 2$$

$$\sqrt{8} = \sqrt{2^2 \cdot 2} = 2\sqrt{2}$$

$$= \frac{-4 \pm 2\sqrt{2}}{2} = \frac{2(-2 \pm \sqrt{2})}{2}$$

$$= -2 \pm \sqrt{2}$$