

Bellwork Alg 2 Monday, November 11, 2019

Find all real solutions using square roots or cube roots.

1. $2x^2 - 85 = 13$

2. $17 + 4x^3 = 49$

3. $35 + 3x^2 = 23$

4. $11 - 2x^3 = 65$

Factor completely. Start with GCF.

5. $3x^3 - 75x$

6. $2x^3 + 18x$

Find all real solutions using square roots or cube roots.

$$1. \quad \begin{array}{r} 2x^2 - 85 = 13 \\ +85 \quad +85 \end{array}$$

$$\frac{2x^2}{2} = \frac{98}{2}$$

$$\sqrt{x^2} = \sqrt{49}$$

$$x = \pm 7$$

$$2. \quad \begin{array}{r} 17 + 4x^3 = 49 \\ -17 \quad -17 \end{array}$$

$$\frac{4x^3}{4} = \frac{32}{4}$$

$$\sqrt[3]{x^3} = \sqrt[3]{8}$$

$$x = 2$$

$$3. \quad \begin{array}{r} 35 + 3x^2 = 23 \\ -35 \quad -35 \end{array}$$

$$\frac{3x^2}{3} = \frac{-12}{3}$$

$$\sqrt{x^2} = \sqrt{-4}$$

No Real
Solutions

$$4. \quad \begin{array}{r} 11 - 2x^3 = 65 \\ -11 \quad -11 \end{array}$$

$$\frac{-2x^3}{-2} = \frac{54}{-2}$$

$$\sqrt[3]{x^3} = \sqrt[3]{-27}$$

$$x = -3$$

Factor completely. Start with GCF.

$$5. \quad 3x^3 - 75x$$

$$= 3x(x^2 - 25)$$

$$= 3x(x+5)(x-5) \\ \text{or} \\ 3x(x \pm 5)$$

$$6. \quad 2x^3 + 18x$$

$$= 2x(x^2 + 9)$$

$x^2 + 9$ is
NOT FACTORABLE
ANY FURTHER