Algebra 1 ECA Remediation Name Answer Key

Homework 33.2

Solve each equation with the quadratic formula.

1) $3n^2 + 11n - 42 = 0$

$121 + 504 = 625$

$a = 3$

$b = 11$

$c = -42$

$n = \frac{-11 \pm \sqrt{(11)^2 - 4(3)(-42)}}{2(3)}$

$= \frac{-11 \pm \sqrt{625}}{6}$

$\frac{-11 + 25}{6} = \frac{14}{6} = \frac{7}{3}$ OR $\frac{-11 - 25}{6} = \frac{-36}{6} = -6$

2) $5a^2 - 7a - 4 = 0$

$49 + 80 = 129$

$a = 5$

$b = -7$

$c = -4$

$a = \frac{7 \pm \sqrt{(-7)^2 - 4(5)(-4)}}{2(5)}$

$= \frac{7 + \sqrt{129}}{10}$ OR $\frac{7 - \sqrt{129}}{10}$

3) $7x^2 + 11x = 20$

$7x^2 + 11x - 20 = 0$

$121 + 560 = 681$

$a = 7$

$b = 11$

$c = -20$

$x = \frac{-11 \pm \sqrt{(11)^2 - 4(7)(-20)}}{2(7)}$

$= \frac{-11 + \sqrt{681}}{14}$ OR $\frac{-11 - \sqrt{681}}{14}$

4) $7n^2 + 5n = 9$

$\underline{\quad -9 \quad -9}$

$7n^2 + 5n - 9 = 0$

$25 + 252 = 277$

$a = 7$

$b = 5$

$c = -9$

$n = \frac{-5 \pm \sqrt{(5)^2 - 4(7)(-9)}}{2(7)}$

$= \frac{-5 + \sqrt{277}}{14}$ OR $\frac{-5 - \sqrt{277}}{14}$

Divide.

5) $(2x^4 + 18x^3 + 18x^2) \div 6x^3$

$\frac{2x^4}{6x^3} + \frac{18x^3}{6x^3} + \frac{18x^2}{6x^3}$

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

6) $(20x^5 + 4x^4 + 8x^3) \div 4x^2$

$\frac{20x^5}{4x^2} + \frac{4x^4}{4x^2} + \frac{8x^3}{4x^2}$

$5x^3 + x^2 + 2x$

Factor the common factor out of each expression.

7) $-70n^5 + 63n - 63$

$-7(10n^5 - 9n + 9)$

8) $6x^4 - 2x^3 - 3x^2$

$x^2(6x^2 - 2x - 3)$

Answers to Homework 33.2

1) $\left\{2\frac{1}{3}, -6\right\}$

2) $\left\{\frac{7+\sqrt{129}}{10}, \frac{7-\sqrt{129}}{10}\right\}$

3) $\left\{\frac{-11+\sqrt{681}}{14}, \frac{-11-\sqrt{681}}{14}\right\}$

4) $\left\{\frac{-5+\sqrt{277}}{14}, \frac{-5-\sqrt{277}}{14}\right\}$

5) $\frac{x}{3} + 3 + \frac{3}{x}$

6) $5x^3 + x^2 + 2x$

7) $7(-10n^5 + 9n - 9)$

8) $x^2(6x^2 - 2x - 3)$