

## HW #37 Example - Polynomial Division

**Solve each equation by factoring.**

1)  $k^2 + 10k + 21 = 0$

2)  $2n^2 + 9n + 7 = 0$

**Divide by synthetic division.**

3)  $(k^4 + 9k^3 + 12k^2 + 33k + 8) \div (k + 8)$

**Divide by long division**

4)  $(a^4 + 4a^3 - 64a^2 - 38a + 15) \div (a + 10)$

## HW #37 Example - Polynomial Division

Solve each equation by factoring.

1)  $k^2 + 10k + 21 = 0$

$$\{-3, -7\}$$

2)  $2n^2 + 9n + 7 = 0$

$$\left\{-\frac{7}{2}, -1\right\}$$

Divide by synthetic division.

3)  $(k^4 + 9k^3 + 12k^2 + 33k + 8) \div (k + 8)$

$$k^3 + k^2 + 4k + 1$$

Divide by long division

4)  $(a^4 + 4a^3 - 64a^2 - 38a + 15) \div (a + 10)$

$$a^3 - 6a^2 - 4a + 2 - \frac{5}{a + 10}$$

## HW #37 Example - Polynomial Division

**Solve each equation by factoring.**

1)  $v^2 + 10v + 16 = 0$

2)  $3k^2 - 29k + 40 = 0$

**Divide by synthetic division.**

3)  $(2b^4 - 13b^3 + 25b^2 - 48b - 10) \div (b - 5)$

**Divide by long division**

4)  $(a^4 - 4a^3 - 20a^2 - 7a + 15) \div (a + 2)$

## HW #37 Example - Polynomial Division

**Solve each equation by factoring.**

1)  $v^2 + 10v + 16 = 0$

$\{-8, -2\}$

2)  $3k^2 - 29k + 40 = 0$

$\left\{\frac{5}{3}, 8\right\}$

**Divide by synthetic division.**

3)  $(2b^4 - 13b^3 + 25b^2 - 48b - 10) \div (b - 5)$

$2b^3 - 3b^2 + 10b + 2$

**Divide by long division**

4)  $(a^4 - 4a^3 - 20a^2 - 7a + 15) \div (a + 2)$

$a^3 - 6a^2 - 8a + 9 - \frac{3}{a+2}$

## HW #37 Example - Polynomial Division

**Solve each equation by factoring.**

1)  $x^2 - 8x + 7 = 0$

2)  $7n^2 + 39n - 18 = 0$

**Divide by synthetic division.**

3)  $(v^4 + 9v^3 + 22v^2 + 24v + 16) \div (v + 2)$

**Divide by long division**

4)  $(x^4 - 3x^3 - 35x^2 + 54x - 41) \div (x - 7)$

## HW #37 Example - Polynomial Division

Solve each equation by factoring.

1)  $x^2 - 8x + 7 = 0$

$\{1, 7\}$

2)  $7n^2 + 39n - 18 = 0$

$\left\{\frac{3}{7}, -6\right\}$

Divide by synthetic division.

3)  $(v^4 + 9v^3 + 22v^2 + 24v + 16) \div (v + 2)$

$v^3 + 7v^2 + 8v + 8$

Divide by long division

4)  $(x^4 - 3x^3 - 35x^2 + 54x - 41) \div (x - 7)$

$x^3 + 4x^2 - 7x + 5 - \frac{6}{x-7}$