

Bellwork Alg 2A Tuesday, May 2, 2017

Find each quotient. Give remainders any way you wish.

1. $\frac{6x^4 - 7x^3 + 3x - 13}{x + 5}$

2. $\frac{2x^4 - 18x^3 + 4x^2 - 43x + 63}{x - 9}$

3. The two real zeros of $x^4 - 8x^3 + 14x^2 + 28x - 80$ are -2 and 4 . Find the remaining zeros.

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Answers

1. $\frac{6x^4 - 7x^3 + 3x - 13}{x + 5}$

$$\begin{array}{r} -5 \overline{) 6 \quad -7 \quad 0 \quad 3 \quad -13} \\ \underline{-30 \quad 185 \quad -925 \quad 4610} \\ 6 \quad -37 \quad 185 \quad -922 \quad 4597 \end{array}$$

$$6x^3 - 37x^2 + 185x - 922$$

$$R = 4597$$

2. $\frac{2x^4 - 18x^3 + 4x^2 - 43x + 63}{x - 9}$

$$\begin{array}{r} 9 \overline{) 2 \quad -18 \quad 4 \quad -43 \quad 63} \\ \underline{18 \quad 0 \quad 36 \quad -63} \\ 2 \quad 0 \quad 4 \quad -7 \quad 0 \end{array}$$

$$2x^3 + 4x - 7$$

3. The two real zeros of $x^4 - 8x^3 + 14x^2 + 28x - 80$ are -2 and 4 . Find the remaining zeros.

$$\begin{array}{r} -2 \overline{) 1 \quad -8 \quad 14 \quad 28 \quad -80} \\ \underline{-2 \quad 20 \quad -68 \quad 80} \\ 1 \quad -10 \quad 34 \quad -40 \quad 0 \end{array}$$

$$\begin{array}{r} 4 \overline{) 1 \quad -10 \quad 34 \quad -40} \\ \underline{4 \quad -24 \quad 40} \\ 1 \quad -6 \quad 10 \quad 0 \end{array}$$

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

$$x = \frac{6 \pm 2i}{2} = 3 \pm i$$

$x^2 - 6x + 10$
use quadratic formula