Lesson 4.4 Practice: Synthetic Division and the Remainder Theorem

School Launch · Algebra II · Unit 4: Polynomial Functions · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Use the Remainder Theorem to find $f(5)$ for $f(x) = 3x^2 - 2x + 5$. EASY

2. Use the Remainder Theorem to find $f(-1)$ for $f(x) = -6x^3 - 4x^2 + 5x - 4$. EASY

3. Use the Remainder Theorem to find $f(-3)$ for $f(x) = -x^2 - 3x + 6$. EASY

4. Use synthetic division to divide $3x^2 + 5x - 4$ by $x - 5$. MEDIUM

5. Use synthetic division to divide $-2x^2 + 4x + 1$ by $x - 1$. MEDIUM

6. Use synthetic division to divide $-2x^2 - x - 2$ by $x - 1$. MEDIUM

7. Use synthetic division to divide $-6x^2 + x + 4$ by $x + 5$. MEDIUM

8. Use synthetic division to divide $-6x^3 - 4x^2 - 2x + 5$ by $x + 3$. HARD

9. Use synthetic division to divide $-6x^3 + 4x^2 + 4x - 2$ by $x + 1$. HARD

10. Use synthetic division to divide $3x^2 + 2x + 1$ by $x + 2$. HARD