

Name _____
Mr. Schlansky

Date _____
Algebra II

Remainder Theorem

Find the remainder when $p(x)$ is divided by $g(x)$

1. $p(x) = x^3 - 9x^2 + 21x - 5$
 $g(x) = x - 5$

2. $p(x) = x^4 - 8x^2 + 3x$
 $g(x) = x + 4$

3. $p(x) = x^3 - 2x^2 + 6x - 2$
 $g(x) = x - 3$

4. $p(x) = x^3 - 5x^2 - 5x + 25$
 $g(x) = x + 2$

5. $p(x) = x^5 + 3x^4 - 4x^3 - 2x^2 + x - 3$
 $g(x) = x + 9$

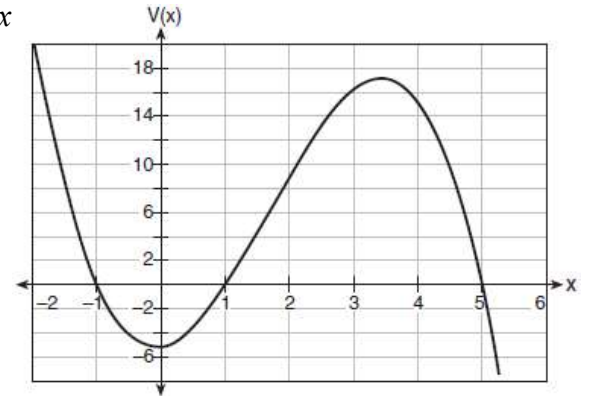
6. $p(x) = -2x^4 - 3x^3 + 9x - 10$
 $g(x) = x + 8$

7. What is the remainder when the following polynomial is divided by:

- a) $x - 1$ b) $x + 2$ c) $x - 3$ d) x

8. What is the remainder when the following polynomial is divided by:

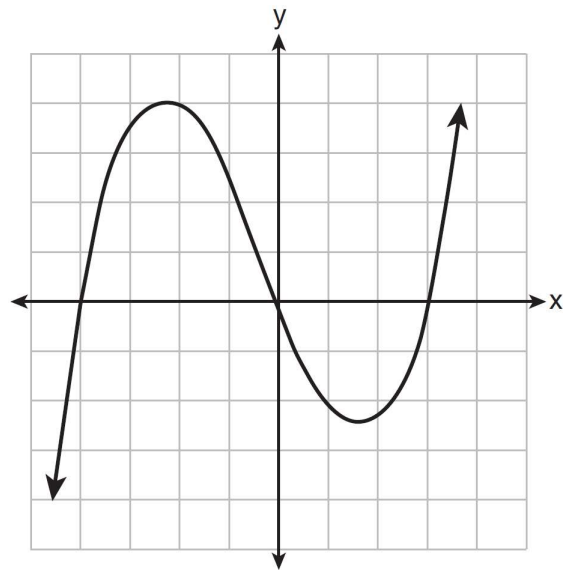
- a) $x-3$ b) $x+2$ c) $x-5$ d) $x-1$ e) x



9. The graph of $p(x)$ is shown below.

What is the remainder when $p(x)$ is divided by $x+4$?

- 1) $x-4$
 2) -4
 3) 0
 4) 4



Find the remainder when the following polynomials are divided

10.
$$\frac{x^3 + 2x^2 - 8x + 2}{x - 3}$$

11.
$$\frac{3x^4 - 5x^3 - 2x - 6}{x + 8}$$

12.
$$\frac{-x^3 + 4x^2 - 2x + 7}{x - 5}$$

13.
$$\frac{2x^5 - 6x^3 + 5x - 1}{x + 2}$$