Chapter 5 (Part 2) Review Worksheet

Name: _____

Divide using polynomial long division.

1.) $(x^2 + 5x - 14) \div (x - 2)$

2.) $(6x^2 - 5x + 9) \div (2x - 1)$

3.) $(5x^4 + 2x^3 - 9x + 12) \div (x^2 - 3x + 4)$

4.) $(4x^4 + 5x - 4) \div (x^2 - 3x - 2)$

Divide using synthetic division.

5.) $(x^4 - 7x^2 + 9x - 10) \div (x - 2)$

6.) $(2x^2 - 11x^3 + 15x^2 + 6x - 18) \div (x - 3)$

Given polynomial $f(x)$ and a factor of $f(x)$, factor $f(x)$ completely.

7.) $f(x) = x^3 - 3x^2 - 16x - 12;\ \ (x - 6)$

8.) $f(x) = 3x^3 - 16x^2 - 103x + 36;\ \ (x + 4)$

Given polynomial function f and a zero of f, find the other zeros of the function.

9.) $f(x) = 2x^3 + 3x^2 - 39x - 20;$ zero: 4

10.) $f(x) = x^3 - 9x^2 - 5x + 45;$ zero: 9

Find all <u>real</u> zeros of the function.

11.) $h(x) = x^3 + 4x^2 + x - 6$

12.) $g(x) = x^3 - 5x^2 - 18x + 72$

Find all <u>real</u> zeros of the function.

13.) $f(x) = 2x^3 + 4x^2 - 2x - 4$

14.) $g(x) = 2x^3 - 5x^2 - 14x + 8$

Find <u>all</u> zeros of the polynomial function.

15.) $f(x) = x^4 + 4x^3 + 7x^2 + 16x + 12$

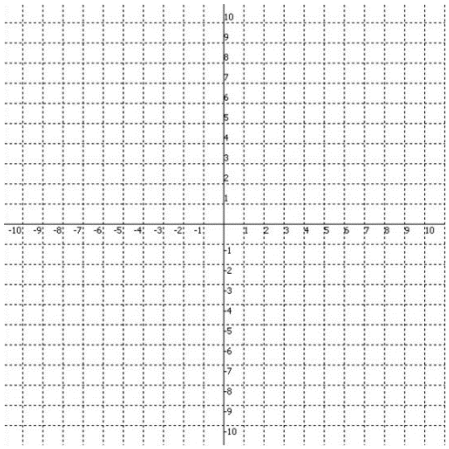
16.) $g(x) = x^4 + 5x^3 - 7x^2 - 29x + 30$

Write a polynomial function *f* of least degree that has rational coefficients, a leading coefficient of 1, and the given zeros.

17.) $-3, -1, -2i$

18.) $3,\ 2 + \sqrt{3}$

19.) $h(x) = 0.3(x+6)(x-1)(x-4)$

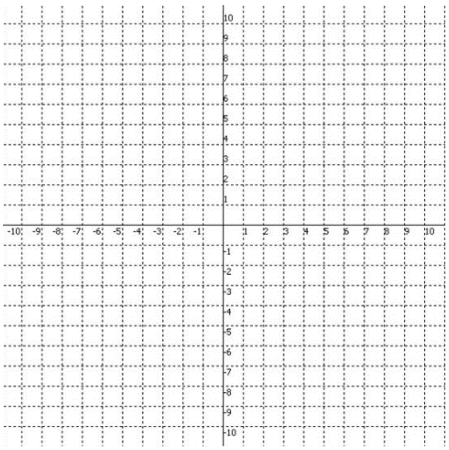


x-intercept(s): _____

y-intercept: _____

x								
y								

20.) $f(x) = \frac{5}{6}(x+1)^2(x-1)(x-4)$

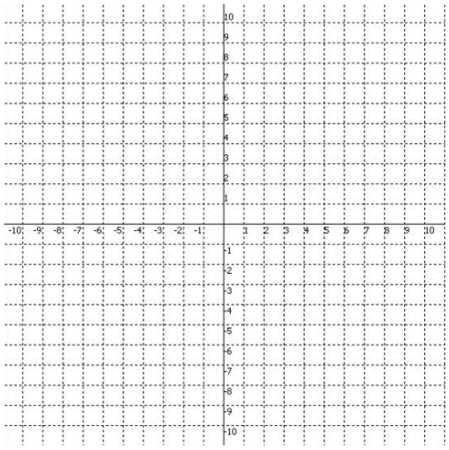


x-intercept(s): _____

y-intercept: _____

x								
y								

21.) $h(x) = x^3 - x^2 - 17x - 15$

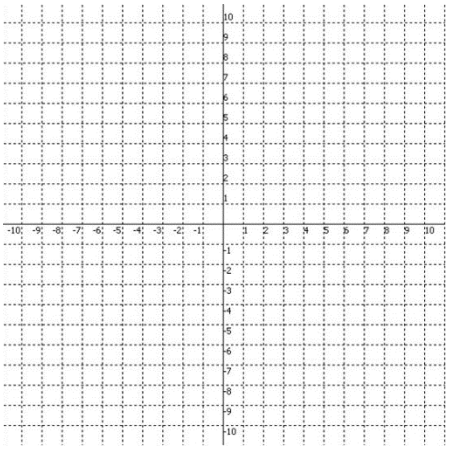


x-intercept(s): _____

y-intercept: _____

x								
y								

22.) $f(x) = x^3 - 4x^2 - 3x + 18$



x-intercept(s): _____

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