Name_____ Date _____

4.5 Notetaking with Vocabulary (continued)

Extra Practice

In Exercises 1–6, solve the equation.

1. $36r^3 - r = 0$

2. $20x^3 + 80x^2 = -60x$

3. $3m^2 = 75m^4$

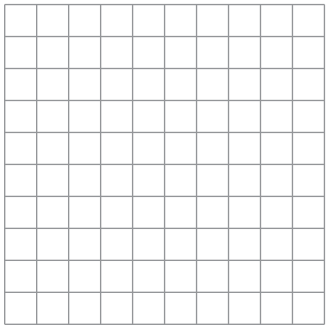
4. $-13y^2 + 36 = -y^4$

5. $2x^3 - x^2 - 2x = -1$

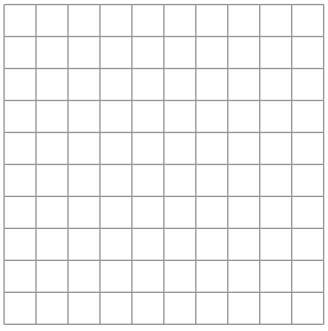
6. $-20c^2 + 50c = 8c^3 - 125$

In Exercises 7–10, find the zeros of the function. Then sketch a graph of the function.

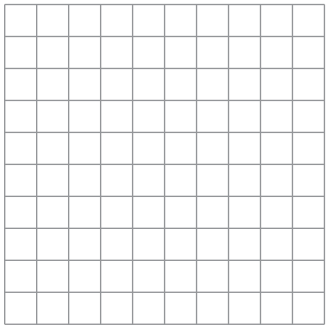
7. $f(x) = x^4 - x^3 - 12x^2$



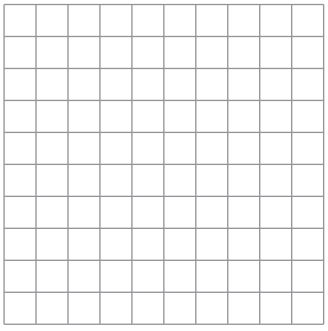
8. $f(x) = -4x^3 + 12x^2 - 9x$



9. $f(x) = x^3 + 4x^2 - 6x - 24$



10. $f(x) = x^4 - 18x^2 + 81$



Name _____ Date _____

4.5 Notetaking with Vocabulary (continued)

11. According to the Rational Root Theorem, which is *not* a possible solution of the equation $2x^4 + 3x^3 - 6x + 7 = 0$?

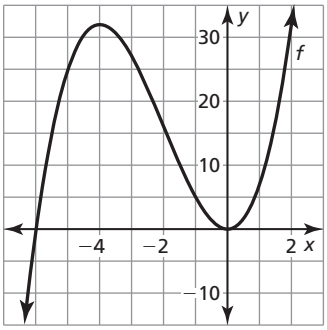
A. 3.5 **B.** 0.5 **C.** 7 **D.** 2

12. Find all the real zeros of the function $f(x) = 3x^4 + 11x^3 - 40x^2 - 132x + 48$.

13. Write a polynomial function g of least degree that has rational coefficients, a leading coefficient of 1, and the zeros -5 and $4 + \sqrt{2}$.

14. Use the information in the graph to answer the questions.

a. What are the real zeros of the function f?



b. Write an equation of the cubic function in factored form.