NAME _____ DATE _____

Practice 57

FOR USE WITH SECTION 9.4

Use technology to approximate all real solutions of each equation to the nearest hundredth.

1. $x^3 - 3x^2 - 10x + 4 = 0$

2. $-\frac{1}{2}x^3 + 5x^2 - 8x - 6 = 0$

3. $\frac{2}{3}x^3 + 4x^2 - 7x - 11 = 0$

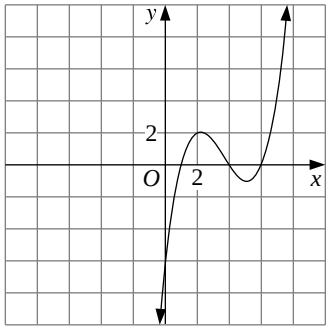
4. $2x^3 - 7x^2 + x + 4 = 0$

5. $-3x^3 - 13x^2 + 10x + 29 = 0$

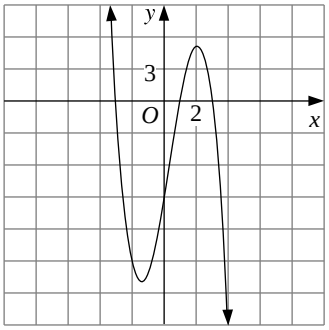
6. $0.4x^3 - 2x^2 - 7x + 17 = 0$

Find an equation for each cubic function whose graph is shown. Assume that all *x*-intercepts are integers.

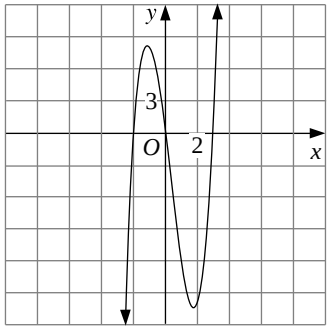
7.



8.



9.



Find the zeros of each function.

10. $f(x) = 3(x + 4)(2x - 7)(x - 9)$

11. $f(x) = (5x + 2)(x - 5)(3x - 4)$

12. $g(x) = x^3 - 2x^2 - 13x - 10$

13. $g(x) = x^3 + 4x^2 - 9x - 36$

14. $h(x) = -x^3 - 3x^2 + 16x - 12$

15. $h(x) = x^3 - 8x^2 + x + 42$

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

17. $f(x) = -6x^3 + 13x^2 - 4$

Write each function in intercept form.

18. $f(x) = (4x - 1)(5x + 2)(x + 3)$

19. $f(x) = 6x^3 + x^2 - 10x + 3$

20. Writing Do you think it is possible for a cubic equation to have no real roots? Describe the possible numbers of real roots a cubic equation can have, based on your knowledge of the possible graphs of cubic equations.

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