

7-4 Intercepts and Roots

Name: _____

Time> Start: _____ Finish: _____ Total Time = _____

In 1-5, find the x-intercepts and the y-intercepts of the given equations.

1. $f(x) = x^2 + 8x - 9$ x-intercept = _____ y-intercept = _____

2. $f(x) = 3x - 9$ x-intercept = _____ y-intercept = _____

3. $f(x) = x^2 + 6x - 5$ x-intercept = _____ y-intercept = _____

4. $f(x) = 4x^2 - 7x - 2$ x-intercept = _____ y-intercept = _____

5. $f(x) = x^3 + 2x^2 - x - 2$ x-intercept = _____ y-intercept = _____

6. What are the roots of $x^2 + x - 20$? _____

7. What are the roots of $x^2 + 4x - 5$? _____

8. What are the roots of $x^3 - 4x$? _____

In 9- 12, write the polynomial of least degree for each set of roots given.

9. 2, 5 _____

10. 1, 4i, -4i _____

11. 3, 2, 1 _____

12. 2, 2i, -2i _____

SAT Questions

- _____ 13. If n is a positive integer, which of the following must be even?
A. $n + 2$ B. $2n$ C. $3n$ D. n^2 E. n^3
- _____ 14. If the product of five integers is negative, then, at most, how many of the five integers could be negative?
A. One B. Two C. Three D. Four E. Five
- _____ 15. If x and y are positive integers and $3^{2x} \bullet 3^{2y} = 81$, what is the value of $x + y$?
A. $\frac{3}{2}$ B. 2 C. 4 D. $\frac{81}{2}$ E. 81