

Algebra 2 Placement Test

Directions: This placement test can help you determine whether your child is ready for the HSLDA Online Academy Algebra 2 course. The student should work independently and without the use of a calculator. The student is probably ready for Algebra 2 if he/she correctly answers 20 or more of the following questions. No test is perfect; any final placement decision should also be based on a strong performance (final grade of B or better) with a solid Algebra 1 curriculum.

Evaluate each expression below.

1. $z - (y \div 3 - 1)$ when $y = 3$, and $z = 7$

2. $12k - h^2$ when $h = 2$, and $k = 3$

Simplify each expression below.

3. $1 + 4(2 - 3k)$

4. $(x - 3)(6x - 2)$

5. $(7k - 3)(k^2 - 2k + 7)$

6. $\sqrt{5} \cdot \sqrt{10}$

7. $(7x^2)(x^4)(-5x)$

8. $\frac{2r-4}{r-2}$

9. $-2(-6x - 9) - 4(x + 9)$

10. $(2v)^2 \cdot 2v^2$

11. $\frac{5n}{30m} + \frac{2m+4n}{30m}$

Solve each equation below.

12. $-9x + 1 = -80$

13. $-6 = \frac{n}{2} - 10$

14. $-4k + 2(5k - 6) = -3k - 39$

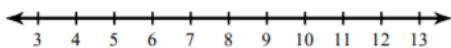
15. Solve the equation for x. $-3x + 2c = -3$

16. Translate the problem into an equation and solve.

A passenger plane made a trip to Las Vegas and back. On the trip there it flew 432 mph and on the return trip it went 480 mph. How long did the trip there take if the return trip took nine hours?

17. Solve the inequality and graph its solution.

$2x + 4 \geq 24$

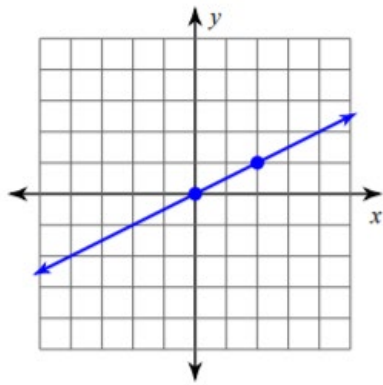


18. Factor: $n^2 + 4n - 12$

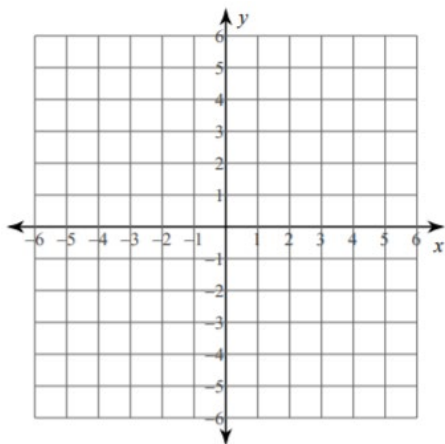
19. Solve the quadratic equation. $n^2 + 3n - 12 = 6$

20. Solve the quadratic equation. $3r^2 - 16r - 7 = 5$

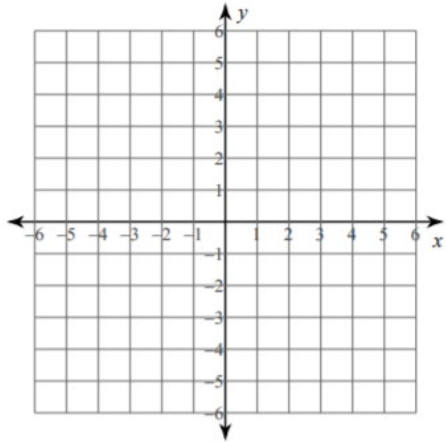
21. Find the slope of the line.



22. Graph the equation on the coordinate plane. $y = -6x + 3$



23. Graph the equation on the coordinate plane. $2x + y = 4$



24. Solve the system of equations for x and y .

$$x - y = 11$$

$$2x + y = 19$$

ANSWER KEY

1. 7

2. 32

3. $9 - 12k$

4. $6x^2 - 20x + 6$

5. $7k^3 - 17k^2 + 55k - 21$

6. $5\sqrt{2}$

7. $-35x^7$

8. 2

9. $8x - 18$

10. $8v^4$

11. $\frac{9n+2m}{30m}$

12. $x = 9$

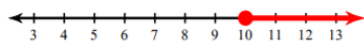
13. $n = 8$

14. $k = -3$

15. $x = \frac{2c+3}{3}$

16. 10 hours

17. $x \geq 10$



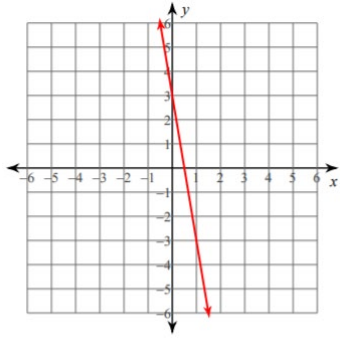
18. $(n - 2)(n + 6)$

19. $n = \{3, -6\}$

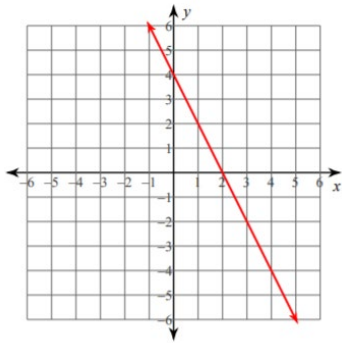
20. $n = \{-2/3, 6\}$

21. slope = $\frac{1}{2}$

22.



23.



24. $x = 10$, $y = -1$