

Placement Test Instructions

This placement test can help you determine whether your child is ready for the Algebra 2 Teaching Textbook. The test is not perfect, so in making any final placement decision also use common sense.

The student should work independently without the use of a calculator. It is not necessary to time the test, but most students will finish in less than $1\frac{1}{2}$ hours.

Scoring

The test is divided into two sections. Section 1 includes problems 1 – 15. This is the simpler part of the test, covering material from the first half of our Algebra 1 product. Section 2 includes problems 16 – 30. It is the more difficult part of the test, covering material from the second half of our Algebra 1 product.

The student is probably ready for Algebra 2 if he/she makes the following scores on the two sections.

**10 or more correct on Section 1 (problems 1 – 15)
and 8 or more correct on Section 2 (problems 16 – 30)**

If the student's score falls below this level, the Algebra 1 Teaching Textbook is probably a better starting point.

Algebra 2 Placement Test

Section 1

Evaluate each expression below.

1. $5 - 3(x - 1)$ when $x = 7$

2. $4x^2 - 5x + 1$ when $x = -2$

Simplify each expression below.

3. $y(y - 11)$

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

5. $(y - 1)(y^2 + 2y + 1)$

6. $(\sqrt{2} \cdot \sqrt{3})^2$

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

8. $\frac{4x^4 - x^3}{8x - 2}$

Solve each equation below.

9. $6x + 7 = 31$

10. $3y + \frac{1}{4}y = 26$

11. $12(x - 1) = 8(x + 1)$

12. $\frac{1}{2y} - \frac{2}{3y} = -\frac{3}{4}$

13. $5[1 - 2(x + 2)] = 4x$

Translate each problem below into an equation and solve.

14. Victoria and Margaret are 625 miles apart and traveling straight toward each other. If Victoria's speed is 55 mph and Margaret's speed is 70 mph, how many hours will it be before the two meet?

15. Mike, a Salvation Army bell ringer, has 5 fewer quarters than nickels in his cup. If Mike has \$5.95 in quarters and nickels, how many nickels does he have?

Section 2

Solve each equation or inequality below. Make sure to give *all* solutions.

16. $7x + 6 \leq 34$

17. $2x^2 - 8 = 10$

18. $3x^2 + 15x = 0$

Answer each question below.

19. In the equation $y = 4x - 7$, find y when $x = -2$.

20. Graph the equation $y = 2x + 1$ on a coordinate plane.

21. Graph the equation $y + 3x = 4$ on a coordinate plane.

22. Find the x and y -intercepts of the graph of the equation $y = 5x - 10$.

23. Find the slope of the graph of the equation $y = 5x - 10$.

Simplify each expression below.

24. $13x^2y - 9x^2y$

25. $xy(x^2 + y^2)$

26. $\frac{q}{ps^3} - \frac{r}{ps^3}$

27. $\frac{x + y}{x^2 + 2xy + y^2}$

Answer each question below.

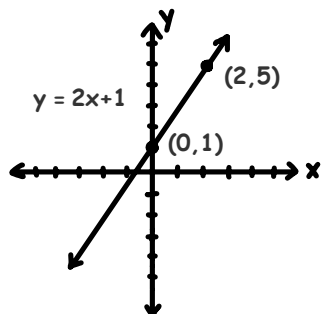
28. In the equation $y = ax^2 + bx + c$, find the value of y when $x = 2$, $a = 1$, $b = 3$, and $c = 5$.

29. Solve the equation $3n - n = b - 1$ for n in terms of b .

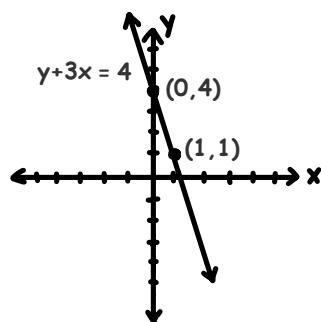
30. Solve the system of equations $\begin{cases} 4x - 2y = 10 \\ x + 2y = 15 \end{cases}$ for x and y .

**ALGEBRA 2
PLACEMENT TEST**

1. -13
2. 27
3. $y^2 - 11y$
4. $x^2 + 3x - 18$
5. $y^3 + y^2 - y - 1$
6. 6
7. $-35x^7$
8. $\frac{x^3}{2}$
9. $x = 4$
10. $y = 8$
11. $x = 5$
12. $y = \frac{2}{9}$
13. $x = -\frac{15}{14}$
14. 5 hours
15. 24 nickels
16. $x \leq 4$
17. 3, -3
18. 0, -5
19. $y = -15$
- 20.



21.



22. x-intercept: $(2, 0)$;
y-intercept:
 $(0, -10)$
23. slope = 5
24. $4x^2y$
25. $x^3y + xy^3$
26. $\frac{q-r}{ps^3}$
27. $\frac{1}{x+y}$
28. $y = 15$
29. $n = \frac{b-1}{2}$
30. $x = 5, y = 5$