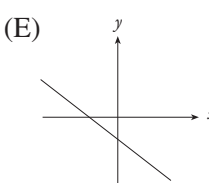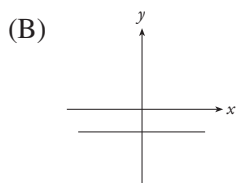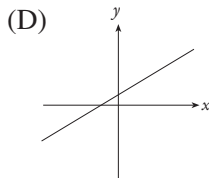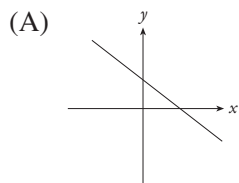# Comprehensive Coordinate Geometry Drill

The answers can be found in Part IV.

7. Which of the following graphs is a linear function that has a positive *x*-intercept and a negative slope?

(A)

(B)

(C)

(D)

(E)

8. A line contains the points (4, 13) and (–4, 7). What is the slope of the line?

(A) 0.51
(B) 0.75
(C) 0.81
(D) 1.22
(E) 1.33

17. What is the equation of a line with an *x*-intercept of 2 and a *y*-intercept of 8 ?

(A) $y = 4x - 8$
(B) $y = 0.25x + 2$
(C) $y = -4x + 2$
(D) $y = 4x + 2$
(E) $y = 0.25x - 8$

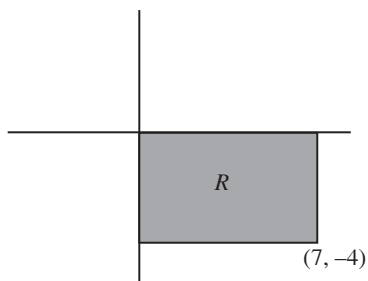18. What is the *y*-intercept of the linear equation $3y - 5x - 8 = 0$?

(A) $\dfrac{3}{8}$

(B) $\dfrac{5}{8}$

(C) $\dfrac{8}{5}$

(D) $\dfrac{8}{3}$

(E) 8

25. If $f(x) = 2x^2 - 3x + 5$, for what value of *x* will $f(x)$ have its minimum value?

(A) $-\dfrac{3}{2}$

(B) $-\dfrac{3}{4}$

(C) $-\dfrac{3}{5}$

(D) $\dfrac{3}{4}$

(E) $\dfrac{31}{8}$

29. On the *xyz*-coordinate plane, what is the distance between (–3, 8, 2) and (7, –4, 3) ?

(A) 5.75
(B) 7.55
(C) 9.95
(D) 15.65
(E) 16.62

(7, –4)

30. In the figure above, rectangle *R* contains all points (*x*, *y*). What is the area of a rectangle that contains all points (*x* + 2, 3*y*) ?

(A)   28
(B)   36
(C)   84
(D)   90
(E) 108

31. In the coordinate plane, points *A* (3, 7), *B* (5, –4), *C* (0, 0), and *D* (–3, –2) can be connected to form line segments. Which of the following line segments has the greatest length?

(A) $\overline{AB}$
(B) $\overline{AC}$
(C) $\overline{BC}$
(D) $\overline{BD}$
(E) $\overline{CD}$

35. In the coordinate plane, the midpoint of the line segment formed by points (12, *y*) and (*x*, 7) is (5, 8). What is the distance between the endpoints?

(A)   7.07
(B)   8.00
(C) 14.14
(D) 16.00
(E) 20.25

44. If the graph of $y = 3x^2 + bx + 12$ is tangent to the *x*-axis, then which of the following could be the value of *b* ?

(A) –12
(B) –9
(C) –4
(D)   0
(E)   4

47. Circle A is centered at (5, –2) and has a radius of 3. Circle *B* is centered at (–1, 1) and has a radius of *r*. If circle *A* and circle *B* are externally tangent, then what is the value of *r* ?

(A) 2.00
(B) 3.71
(C) 4.12
(D) 6.71
(E) 9.71