Find the domain and range. Determine whether function or not.

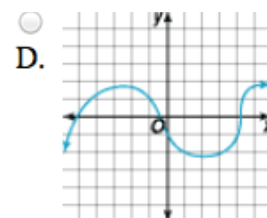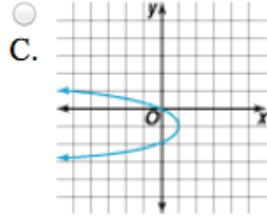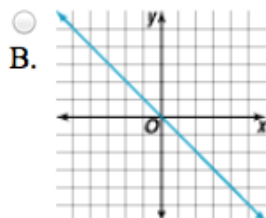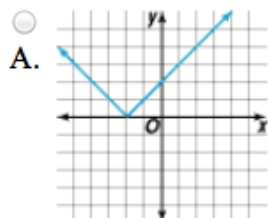1.   { (1, −1), (2, −4), (3, −9),(4, −16) }   2. { (−5, 4), (6, −1), (5, −2), (−3, 7),(5, 0) }

Determine whether each relation is a function or not.

3.
Domain   Range

4.
Domain   Range
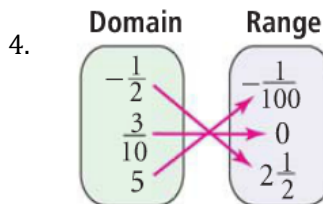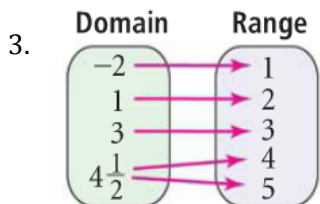
5. Choose the graph that is not a function.

A.

B.

C.

D.

6. Write $y = \dfrac{3}{8}x - 2$ in standard form where *A, B*, and *C* are integers whose greatest common factor is 1.

A.   3x + 8y = 16   B. 3x − 8y = 2   C. $\dfrac{3}{8}x - y = 2$ D. 3x − 8y = 16

Suppose f(x) = 2x – 5 and g(x)= |–3x – 1|, find each value.

7. f(3)   8. f(1) + g(2)   9. f(a + 3)

Find the slope of each line.
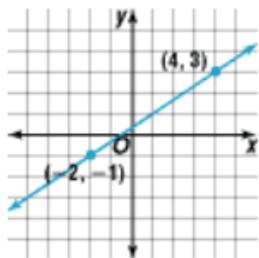
10. through (3, 5) and (1, 1)   11. 4x + 3y = 2

12. parallel to y = 5x −1 and passes through (8, −1)

13. What is the y-intercept of the graph of the line with equation $y = \dfrac{5}{8}x - 7$?
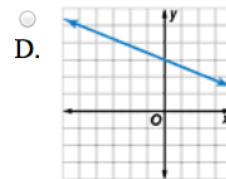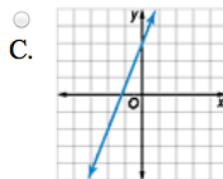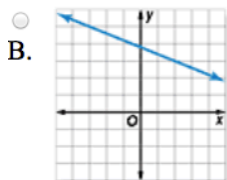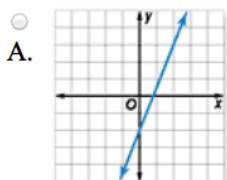
14. State the slope of the line graphed below.
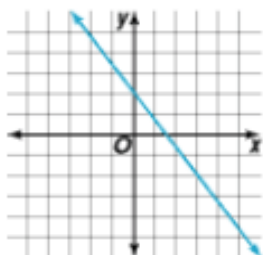

a. $\dfrac{3}{2}$ B. $\dfrac{3}{2}$ C. $-\dfrac{2}{3}$ D. $-\dfrac{3}{2}$

15. Graph the line through (2, 3) that is perpendicular to the line with equation 2x + 5y = 1.

A.   B.   C.   D.

16. Describe the line that is graphed below.

A. passes through the point (3, −2) with the slope of $\dfrac{4}{3}$

B. passes through the point (3, −2) with the slope of $\dfrac{3}{4}$

C. passes through the point (3, 2) with the slope of $-\dfrac{3}{4}$

D. passes through the point (3, −2) with the slope of $-\dfrac{4}{3}$

Graph.

17. 6x + 8y = 24

18. 6x + 2y < 10

*Write the equation of each line in slope-intercept form.*

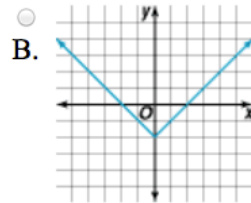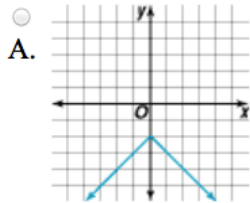19. passing through (9, 12) and (7, 2)

20. parallel to 9x − 5y = 8 and through (−10, 2)

21. perpendicular to $y = -\dfrac{2}{7}x + 3$ and through (6, 4)

22. The Math Club is selling T-shirts and hats and would like to raise at least $2400. It sells T-shirts for $15 and hats for $8. Write and graph an inequality representing the number of T-shirts and hats the club must sell to meet its goal.

23. Choose the graph of f(x) = |x| – 2.

A.

B.

C.

D.
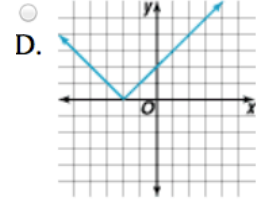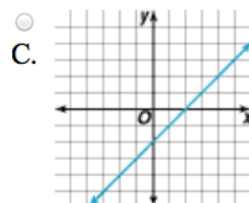
24. Translate f(x) = |x| so that its vertex is at (4, –2). Then graph.

25. Choose the graph of y ≥ |x| – 3.

A.

B.

C.

D.
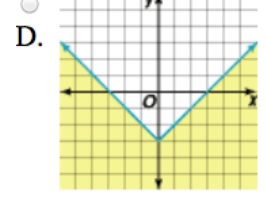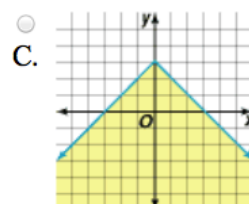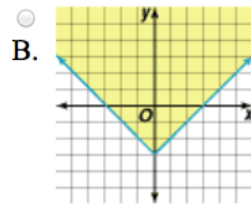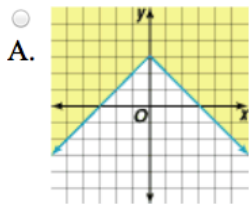
26. A consumer group is studying how hospitals are staffed. Here are the results from eight randomly selected hospitals in a state.

Full – Time Hospital Employees								
Hospital Beds	23	29	35	42	46	54	64	76
Full –Time Employees	69	95	118	126	123	178	156	176

a. Make a scatter plot of the data with hospital beds as the independent variable.

b. Find the correlation coefficient *r*.

c. Find the equation of the line of best fit.

d. Draw the line of best fit in your scatter plot.

e. Predict the number of beds in a hospital with 8 full-time employees.