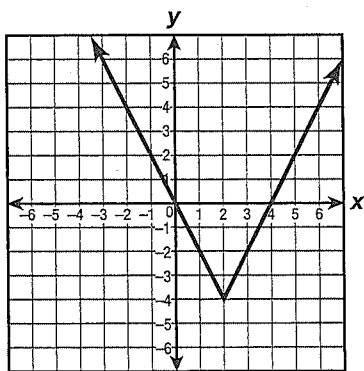


Chapter 1 Review

1 Which of the following expressions is equivalent to $2x^2 + 5x - 12$?

- A $(2x + 1)(x - 6)$
- B $(2x - 3)(x + 4)$
- C $(2x + 3)(x - 4)$
- D $(2x + 6)(2x - 1)$

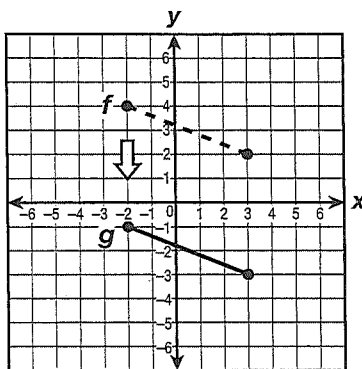
2 The graph of the absolute value function f is shown below.



What are the domain and range for this function?

- A Domain: all real numbers; range: all real numbers
- B Domain: all real numbers; range: $y \leq -4$
- C Domain: all real numbers; range: $y \geq -4$
- D Domain: $x \geq 2$; range: $y \geq -4$

3



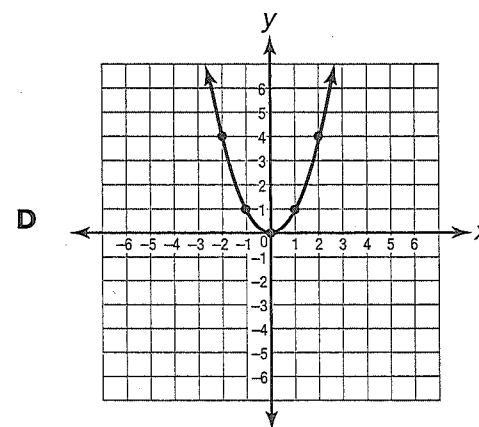
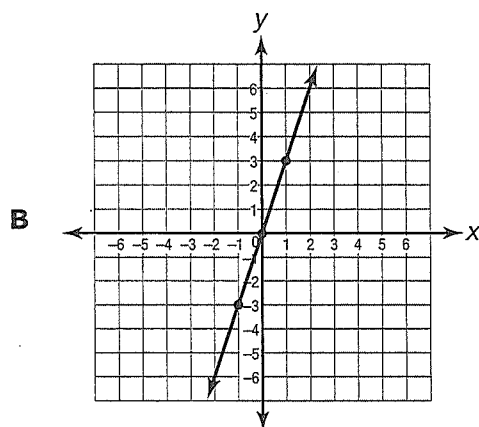
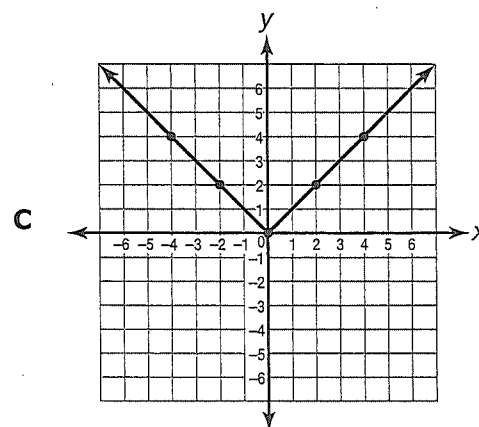
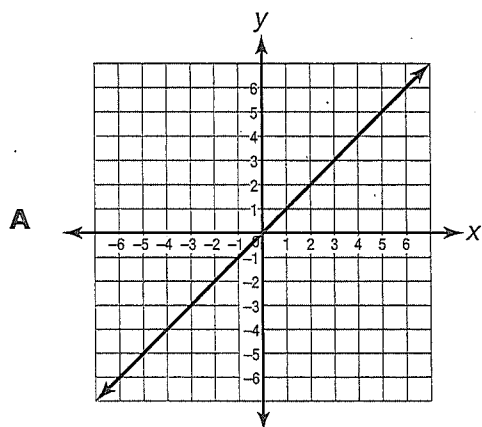
The graph of the function g was obtained from the graph of the function f using a transformation as shown above. Based on the graph, which equation can be used to describe $g(x)$ in terms of $f(x)$?

- A $g(x) = f(x) + 5$
- B $g(x) = f(x + 5)$
- C $g(x) = f(x) - 5$
- D $g(x) = f(x - 5)$

4 Which of the following expressions is equivalent to $3\sqrt{-50} + 4\sqrt{-32}$?

- A $-15i\sqrt{3}$
- B $16i\sqrt{5}$
- C $14i\sqrt{2}$
- D $31i\sqrt{2}$

5 Which of the following is the parent graph for the linear function family?

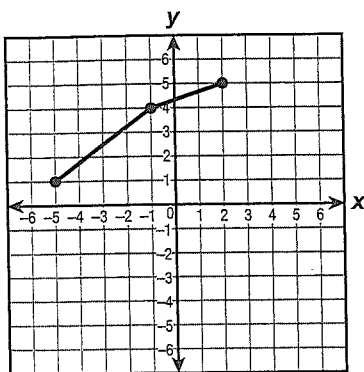


6 Multiply: $(5 + 3i)(5 - 3i)$

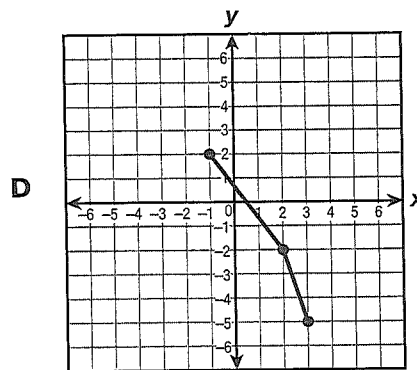
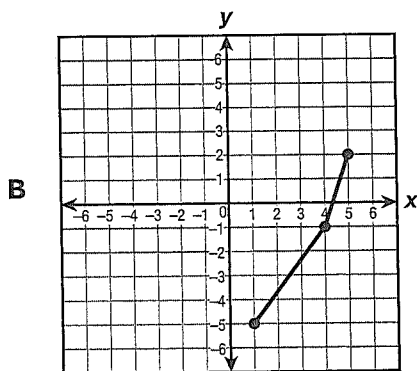
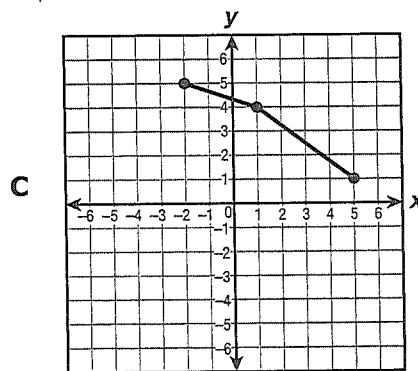
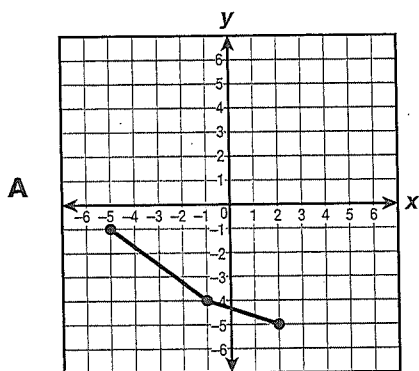
Record your answer and fill in the bubbles below.

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7 The graph of the function f is shown below.



Which grid shows the graph of f^{-1} ?



- 8 Jenny is studying for a test. She has taken 5 practice tests, recording the number of minutes she spent studying for each test, m , and her score out of 100, s .

Minutes, m	33	38	27	44	36
Score, s	88	92	77	95	90

Using your calculator, find a line of best fit to model the data.

- A $s = 1.04m + 51.31$
- B $s = 0.96m + 45.21$
- C $s = 0.89m + 62.03$
- D $s = 0.89m + 59.77$
- 9 Alice's weekly salary is defined by the linear function $t = 15h + 250$, where t is her total pay, in dollars, and h is the number of hours worked per week. Each week, she must work at least 15 hours and can work no more than 40 hours. What are the domain and range for this function?
- A Domain: $0 \leq h \leq 15$;
range: $0 \leq t \leq 475$
- B Domain: $0 \leq h \leq 40$;
range: $0 \leq t \leq 850$
- C Domain: $15 \leq h \leq 40$;
range: $475 \leq t \leq 850$
- D Domain: $15 \leq h \leq 100$;
range: $475 \leq t \leq 1,750$

- 10 Which function is the inverse of $f(x) = 7x - 9$?

- A $g(x) = 7x + 63$
- B $g(x) = 7x - 63$
- C $g(x) = \frac{x-9}{7}$
- D $g(x) = \frac{x+9}{7}$

- 11 Which of the following expressions is equivalent to $10 + \sqrt{-90}$?

- A $10 + 9\sqrt{10}$ C $10 - 3i\sqrt{10}$
- B $10 - 9\sqrt{10}$ D $10 + 3i\sqrt{10}$

- 12 The parent linear function, $y = x$, is transformed so that it is less steep and crosses the y -axis at the point $(0, -5)$. Which of the following equations could represent this transformation?

- A $y = 3x - 5$ C $y = 5x$
- B $y = \frac{1}{5}x - 5$ D $y = -5x$

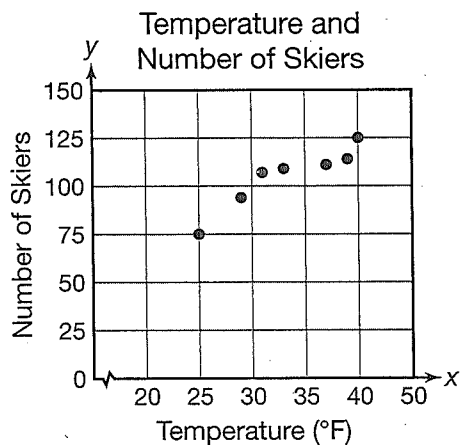
- 13 What is the value of the expression $2^5 \cdot 4^{-1}$?

Record your answer and fill in the bubbles below.

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Use the following information for questions 14 and 15.

The scatterplot below shows the average daily temperature at a ski lodge, in degrees Fahrenheit, and the number of skiers each day.



14 Which is closest to the line of best fit for the data?

- A $y = 3x + 15$
- B $y = \frac{1}{3}x - 20$
- C $y = -\frac{3}{2}x + 30$
- D $y = -2x + 50$

15 Which is the best prediction of the numbers of skiers on a day with an average temperature of 20°F?

- A 5
- B 15
- C 35
- D 65

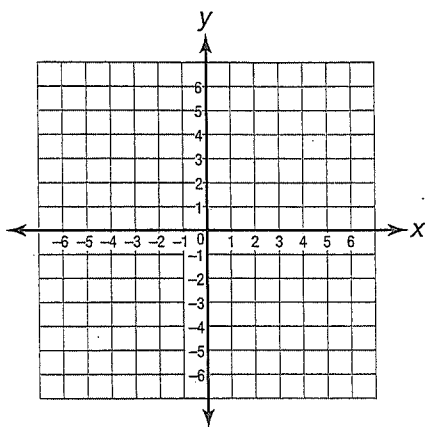
16 What is the range of the function $f(x) = |x - 2| + 4$?

- A $f(x) \geq -2$
- B $f(x) \leq -2$
- C $f(x) \geq 4$
- D $f(x) \leq 4$

17 Which of the following expressions is equivalent to $4x^2 - 36$?

- A $4(x - 3)^2$
- B $4(x - 3)(x + 3)$
- C $(4x - 6)(x + 6)$
- D $(4x - 12)(x + 3)$

- 18 A.** On the coordinate grid below, sketch the graph of $f(x) = |x|$ and label it.
- B.** On the same grid, draw a translation of the graph 3 units to the right, and label it $g(x)$.



C. What is the equation of the transformed function? $g(x) =$ _____

- 19 A.** Given the linear function $f(x) = \frac{1}{3}(x - 2)$, find the inverse function, $f^{-1}(x)$.

$f^{-1}(x) =$ _____

B. What are the domain and range of $f(x)$? _____

C. What are the domain and range of $f^{-1}(x)$? _____