STAAR Review

#3

Count Down

8 DAYS

Pre-AP

Name: _____ Period: _____ Date: _____

Directions: Please record all your answers below.

1.   _____
2.   _____
3.   _____
4.   _____
5.   _____
6.   _____
7.   _____
8.   _____
9.   _____
10.   _____
11.   _____
12.   _____
13.   _____
14.   _____
15.   _____
16.   _____
17.   _____
18.   _____
19.   _____
20.   _____
21.   _____
22.   _____
23.   _____
24.   _____
25.   _____

Use the following information to answer questions 1–4.

Carson and Elena will attend either the local university or a university about 300 miles away. The table below shows the cost of attending both universities for one year.

Costs at Two Universities

University	Tuition & Fees	Room & Board	Books	Additional Costs
Local	$20,480	$5,274	$1,300	$840
Out-of-Town	$25,385	$9,350	$1,500	$2,350

1. Carson's parents have saved $12,460, and he earned a $6,500 yearly scholarship. He must cover all of the remaining expenses with student loans. Assuming Carson will be living on campus, how much will he need in student loans to attend the out-of-town university for one year?

   A $8,034   C $15,775

   B $10,275   D $19,625

2. Elena's parents can pay for her tuition and fees, but she will be responsible for all her other expenses. She could pay $3,500 a year to share an apartment near the out-of-town university with a friend. How much will Elena save per year by renting the apartment rather than living on campus?

   A $1,774   C $5,850

   B $4,235   D $6,743

3. Carson and Elena will attend classes for at least 4 years to finish their college education. How much could each of them save in just tuition and fees by attending the local university for 4 years rather than the out-of-town university?
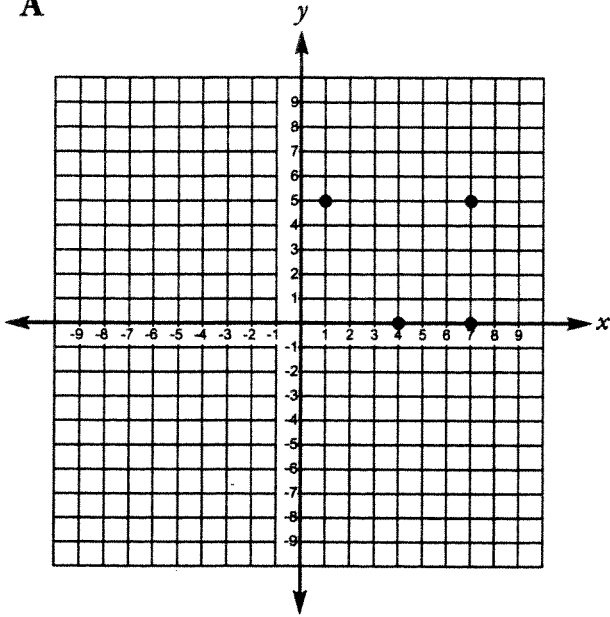
   A $4,905

   B $8,981

   C $16,620

   D $19,620

4. If Carson decides to attend the out-of-town university, how much more will he pay for his 4-year education there than at the local university?
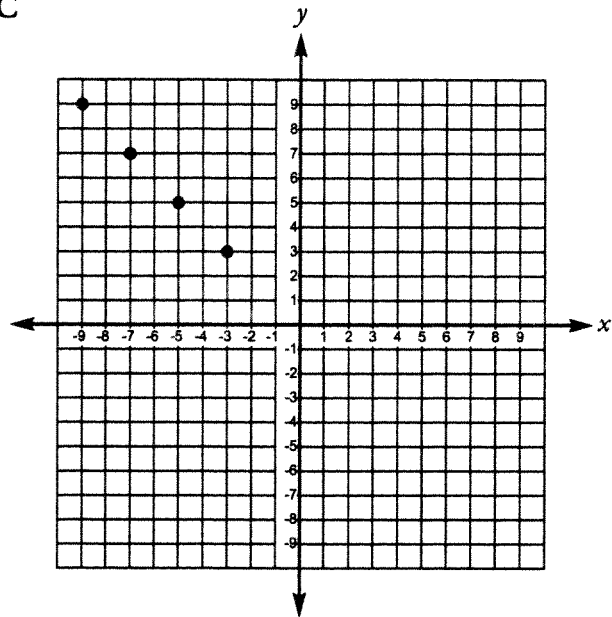
   A $10,691

   B $11,311

   C $42,764

   D $78,480

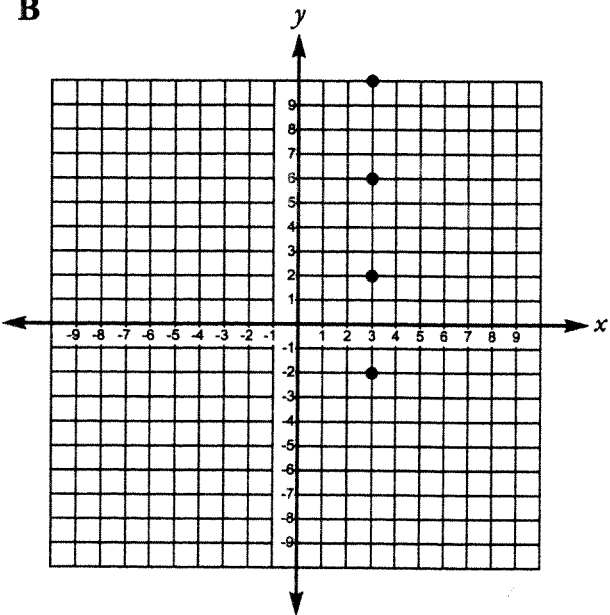5. Each graph below shows 4 ordered pairs. On which graph do the 4 ordered pairs represent a functional relationship?
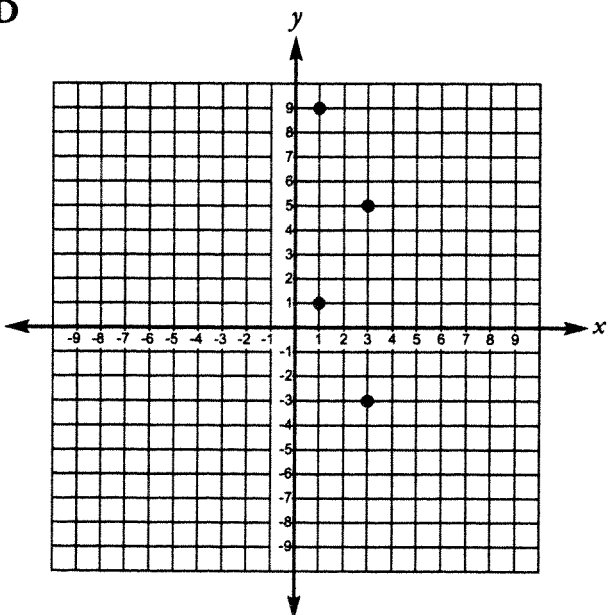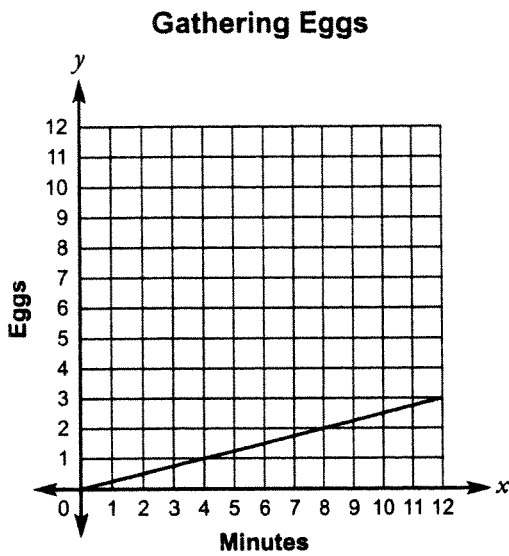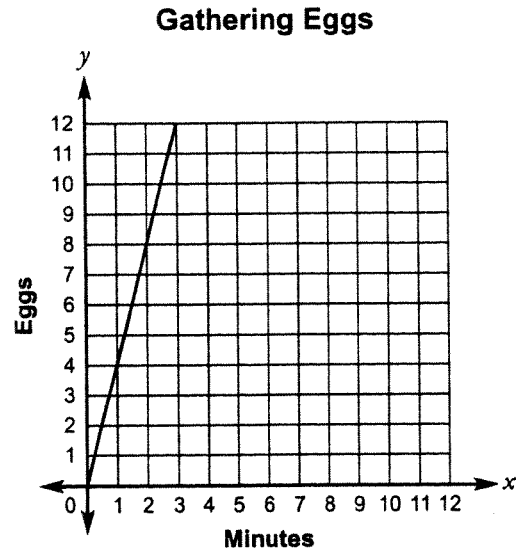
A

C

B

D

When gathering eggs from the hen house, Jaryn can collect 12 eggs every 3 minutes. Which graph correctly represents the unit rate for this proportional relationship?
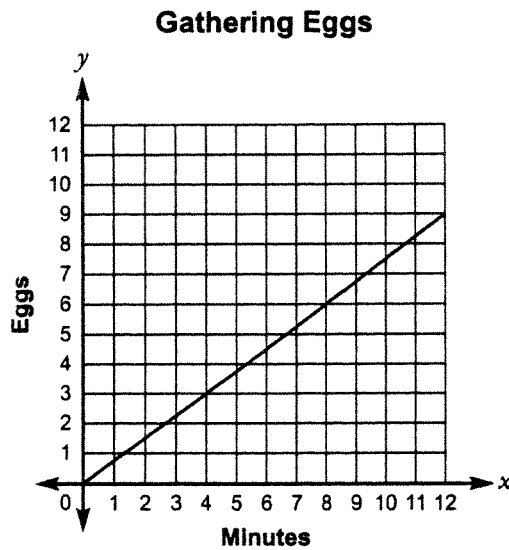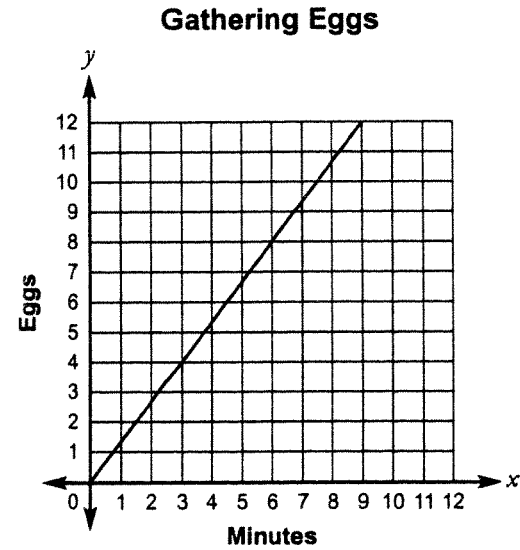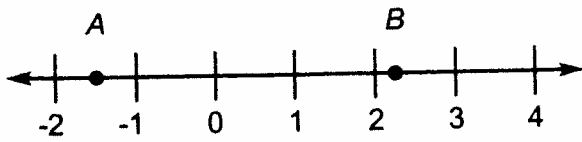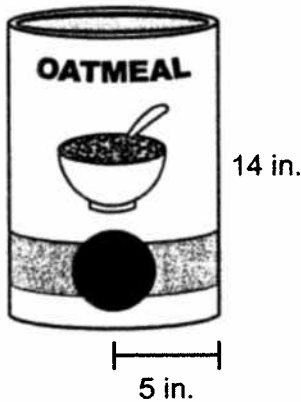
A

Gathering Eggs

B

Gathering Eggs

C

Gathering Eggs

D

Gathering Eggs

7. The number line below shows points A and B.

Each of the following numbers would appear on the number line between points A and B **EXCEPT**—
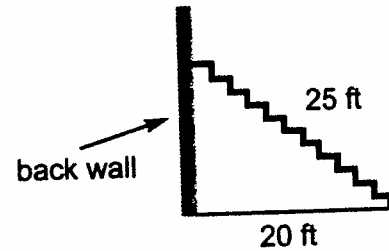
A 0.85

B $\sqrt{3}$

C $\dfrac{9}{5}$

D $-\sqrt{5}$

8. The school bleachers measure 25 feet from the floor diagonally to the top seat. They extend 20 feet from the back wall.

How far from the floor is the top seat of the bleachers?

A 5 ft

B 15 ft

C 25 ft

D 35 ft

9. Kamala will use construction paper to cover the oatmeal container shown in the diagram below.

Kamala will not cover the container's circular bases. She will need enough construction paper to cover an area of at least—

A 157 in.²

B 219.8 in.²

C 439.6 in.²

D 596.6 in.²

10. Employees at a factory receive regular raises. The table below shows how an employee's hourly wage increases based on these regular raises.

Years of Service (x)	Hourly Wage (y)
0	$9.75
0.5	$10.55
1	$11.35
1.5	$12.15
2	$12.95

Which linear equation models the relationship shown in the table?

A $y = 0.5x + 0.8$

B $y = 1.6x + 9.75$

C $y = 9.75x + 1.6$

D $y = 0.8x + 9.75$

Use the following information to answer questions 11 and 12.

The diagram below shows a model of an outdoor room that is 16 feet long, 14 feet wide, and 8 feet high.

8 ft   14 ft

16 ft
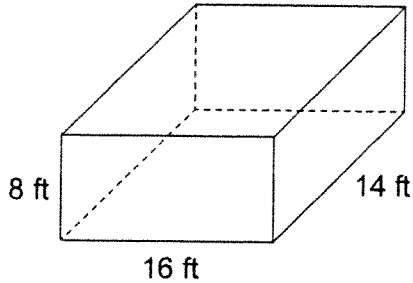
The owner wants to cover all 4 walls with stone tiles. Each tile is one-foot square.

(8.1A; 8.1B; 8.1D; 8.1F)

11. How many tiles will the owner need to cover all 4 inner walls?

A   224

B   256

C   480

D   512

12. The owner decides to cover only half of each inner wall with tile. The local hardware store sells tile for $2.75 per square foot. How much will the owner spend on tile to cover only half of each wall?

Record your answer in the boxes. Then fill in the bubbles. Be sure to use the correct place value.


13. A gymnast performs a tumbling run along the diagonal of a square mat with sides that are 35 feet long. To the nearest foot, what distance does the gymnast tumble?

A   35 ft

B   49 ft

C   70 ft

D   1,225 ft

14. Annie went shopping with several coupons: 25% off athletic shoes, $\frac{1}{10}$ off jewelry, 40% off sale merchandise, and $\frac{1}{3}$ off books or CDs. If every item had the same price, which list shows the discounts in order from least to greatest?

A $\frac{1}{3}$ $\frac{1}{10}$ 25%   40%

B   25%   40% $\frac{1}{10}$ $\frac{1}{3}$

C $\frac{1}{10}$ 25% $\frac{1}{3}$ 40%
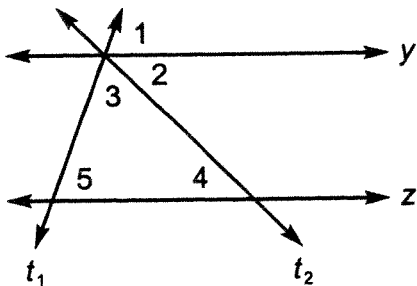
D   40% $\frac{1}{3}$ 25% $\frac{1}{10}$

15. Figure *RSTU* is shown on the grid below.
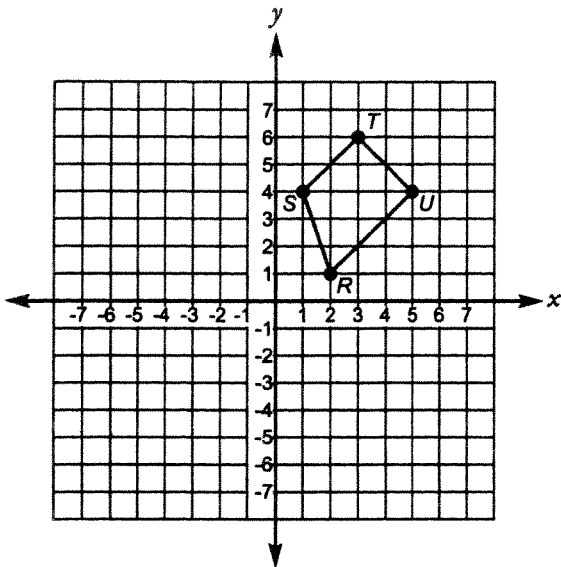
If Alexis transforms Figure *RSTU* by reflecting it across the *x*-axis, what are the coordinates for *U'*?

A (0, 4)

B (-5, 4)

C (5, -3)

D (5, -4)

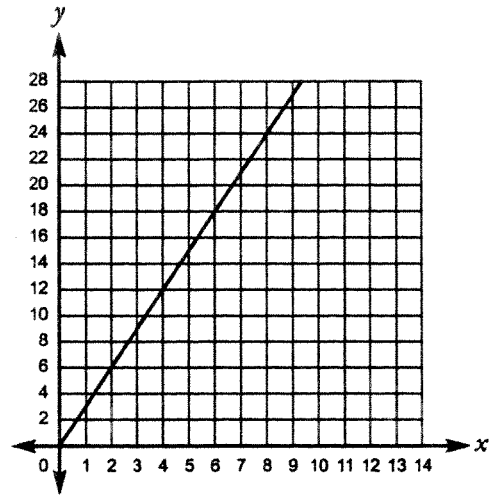17. In the diagram below, lines *y* and *z* are parallel. The measure of ∠1 is 75°.

Based on the information in the diagram, what is the measure of ∠5?

A 15°   C 60°

B 45°   D 75°

16. What is the slope of the linear function shown on the graph below?

A $\frac{1}{3}$ C 3

B 4   D $\frac{1}{4}$

18. The table below shows information about the new savings accounts opened by four different customers.

Savings Accounts

Customer	Initial Deposit	Annual Interest Rate
K. Wayne	$300	9% simple interest
J. Cho	$500	5% compound interest
M. Wolfe	$500	6% simple interest
A. Jones	$400	8% simple interest

If none of the customers makes any deposits or withdrawals, which customer will have earned the greatest amount of interest after 3 years?

A J. Cho

B A. Jones

C K. Wayne

D M. Wolfe

19. At a party, Keera served chocolate pudding in small sugar cones like the one shown in the diagram below.
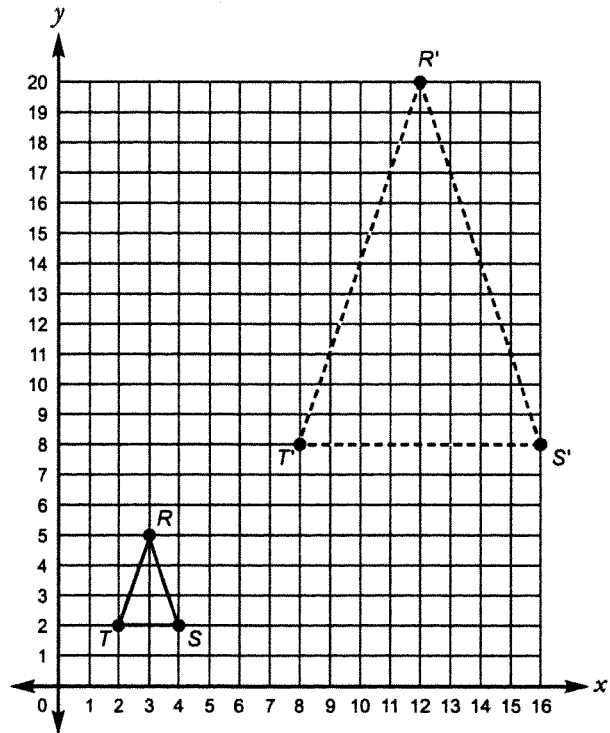
6 cm

9 cm
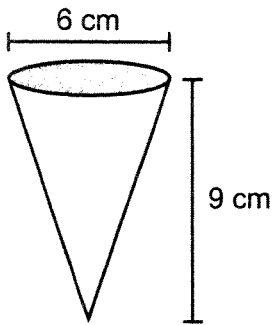
Rounded to the nearest tenth, what is the volume of one sugar cone, in cubic centimeters?

Record your answer in the boxes. Then fill in the bubbles. Be sure to use the correct place value.

⊕ ⊖	⓪①②③④⑤⑥⑦⑧⑨	⓪①②③④⑤⑥⑦⑧⑨	⓪①②③④⑤⑥⑦⑧⑨	⓪①②③④⑤⑥⑦⑧⑨	.	⓪①②③④⑤⑥⑦⑧⑨	⓪①②③④⑤⑥⑦⑧⑨

**20.** On the grid below, Triangle $R'S'T'$ is a dilation of Triangle RST.

Which algebraic representation can be used to explain the scale factor for the dilation?

A $(2x, 2y)$

B $(4x, 4y)$

C $\left(\dfrac{x}{4}, \dfrac{y}{4}\right)$

D $(x + 4, y + 4)$

21. As part of a sleep study, doctors wanted to know the relationship between the participants' ages and their normal wake-up time in the morning. The scatterplot below shows the doctors' findings. The scatterplot includes a trend line that approximates the relationship between these two sets of data.
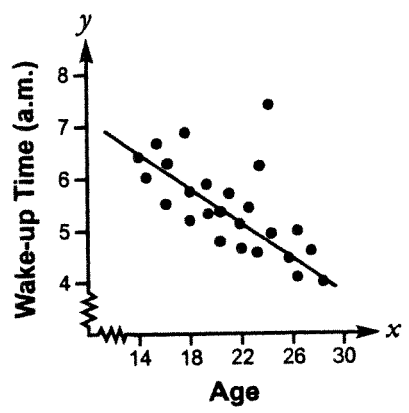
Based on the data presented in the scatterplot, which is the best prediction for an 18-year-old participant's normal wake-up time?

A 5:00 a.m.

B 5:45 a.m.

C 6:15 a.m.

D 7:00 a.m.

22. Jill drew two squares on the grid below. Square $A'B'C'D'$ is a dilation of Square $ABCD$.
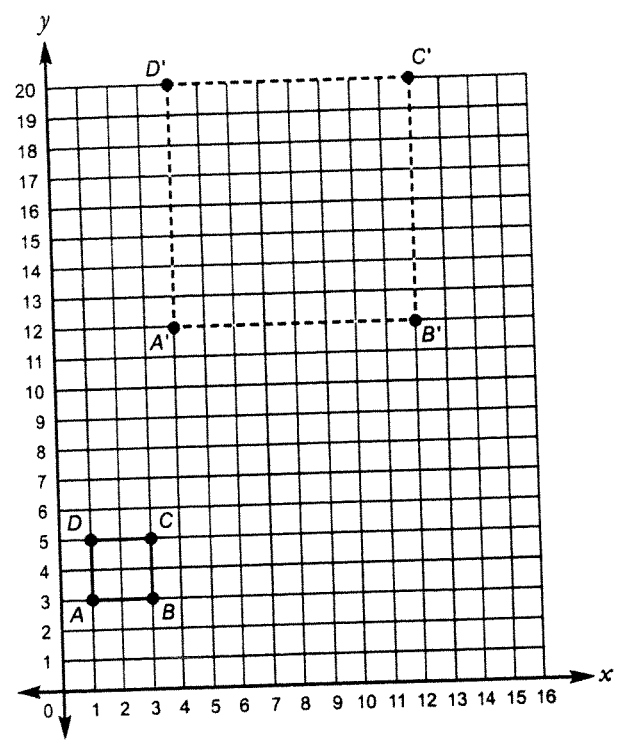
Which algebraic representation could Jill use to explain the scale factor she used to create Square $A'B'C'D'$?

A $(\frac{x}{2}, \frac{y}{2})$

B $(\frac{x}{3}, \frac{y}{3})$

C $(4x, 4y)$

D $(5x, 5y)$

23 The table below shows a city's hourly temperature after reaching the day's lowest temperature of 42 °F.
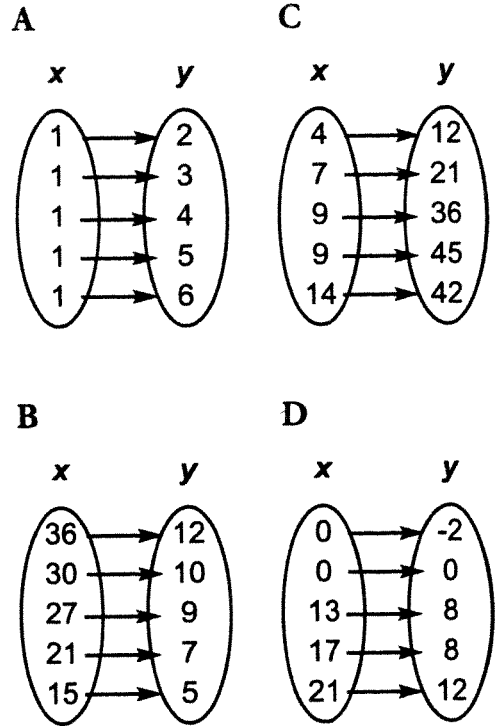
Hourly Temperature

Time (x)	Temperature (°F) (y)
6:00 a.m.	42
7:00 a.m.	45
8:00 a.m.	48
9:00 a.m.	51
10:00 a.m.	54
11:00 a.m.	57
12:00 p.m.	60
1:00 p.m.	63
2:00 p.m.	66

Which linear equation models the relationship shown in the table?

A $y = 5x$ **C** $y = 2x + 40$

B $y = 3x + 42$ **D** $y = 42x + 3$

24 Four mappings of ordered pairs appear below. Which mapping represents a functional relationship?

A

x	y
1	2
1	3
1	4
1	5
1	6

C

x	y
4	12
7	21
9	36
9	45
14	42

B

x	y
36	12
30	10
27	9
21	7
15	5

D

x	y
0	-2
0	0
13	8
17	8
21	12

25 A math teacher instructed students to find the value of x in the equation below.

$$100 - 6x = 160 - 10x$$

Which of the following would be the best first step in finding the value of x in the equation?

A Adding $10x$ to each side of the equation

B Multiplying each side of the equation by 2

C Subtracting $10x$ from each side of the equation

D Subtracting 160 from each side of the equation