

Oklahoma School Testing Program



Oklahoma Core Curriculum Tests

2010–2011 Released Items

End-of-Instruction
ACE Algebra I

**Oklahoma State Department of Education
Oklahoma City, Oklahoma**





Section 1

Section 1

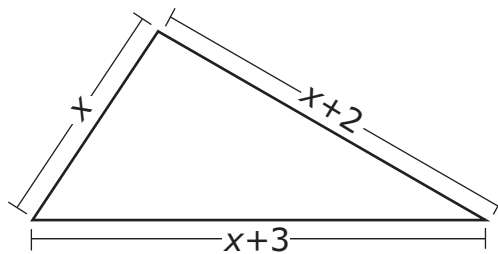
Directions

Read each question and choose the best answer.

1 Let x represent Sue's age and y represent Kay's age. Kay is three years older than twice Sue's age. Which equation shows the relationship between their ages?

- A $3y = x + 2$
- B $2y = x + 3$
- C $y = 3x + 2$
- D $y = 2x + 3$

2 The perimeter of the triangle below is 23 centimeters.



What is the length, in centimeters, of the shortest side?

- F 4 centimeters
- G 6 centimeters
- H 8 centimeters
- J 9 centimeters

3 What is the value of $5x - 2y$, when $x = 6$ and $y = 4$?

- A 5
- B 8
- C 22
- D 38

4

$$\frac{6b(2a - 6)}{4b}$$

What is the simplified form of this expression?

- F $2a - 3$
- G $2a - 9$
- H $3a - 3$
- J $3a - 9$

5 Which expression is equivalent to $(x^5)^2 w^7 (x^3)^3 w^5$?

- A $x^{13} w^{12}$
- B $x^{19} w^{12}$
- C $x^{40} w^{35}$
- D $x^{90} w^{35}$

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6

$$y^2 + 14y - 32$$

What is the factored form of this expression?

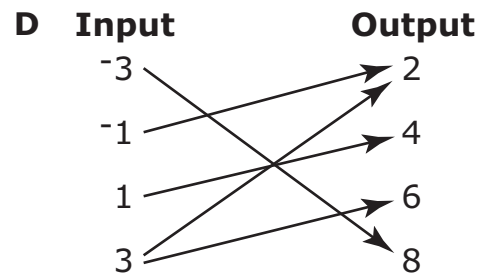
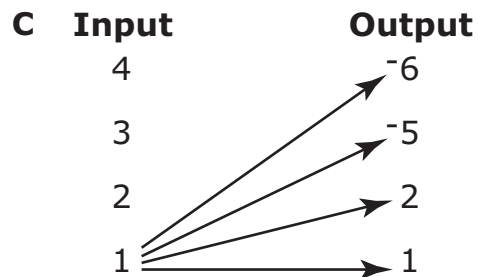
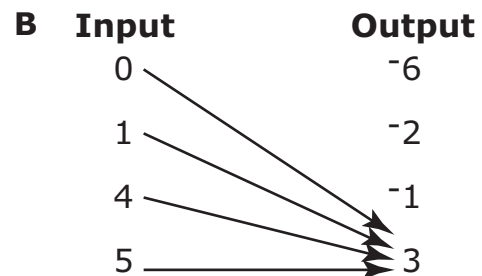
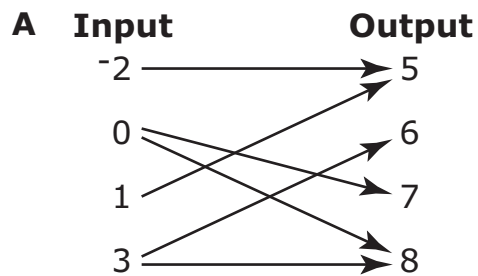
F $(y + 2)(y - 16)$

G $(y - 2)(y + 16)$

H $(y + 8)(y - 4)$

J $(y - 8)(y + 4)$

7 Which diagram represents a function?



8 Nancy sells orange juice and lemonade. She charges different prices for small, medium, and large sizes of these drinks. What are the independent and dependent variables?

- F** Independent variable: drink size
Dependent variable: price charged
- G** Independent variable: type of drink
Dependent variable: price charged
- H** Independent variable: price charged
Dependent variable: drink size
- J** Independent variable: price charged
Dependent variable: type of drink

9

$$-4 + 6(x - 2) = 15$$

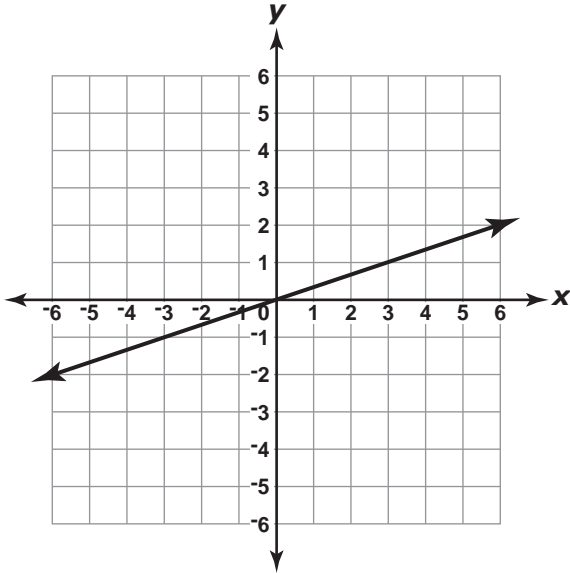
What is the solution to this equation?

- A** $\frac{31}{6}$
- B** $\frac{1}{6}$
- C** $-\frac{3}{16}$
- D** $-\frac{11}{12}$

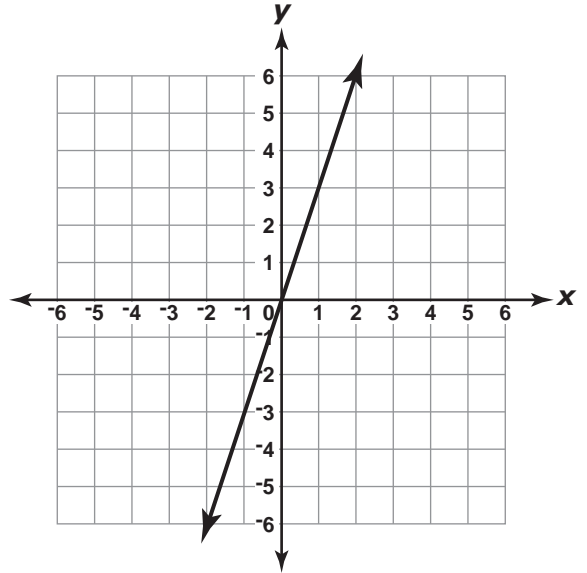
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10 Which of these represents what happens to the graph of $y = x$ when the slope is tripled?

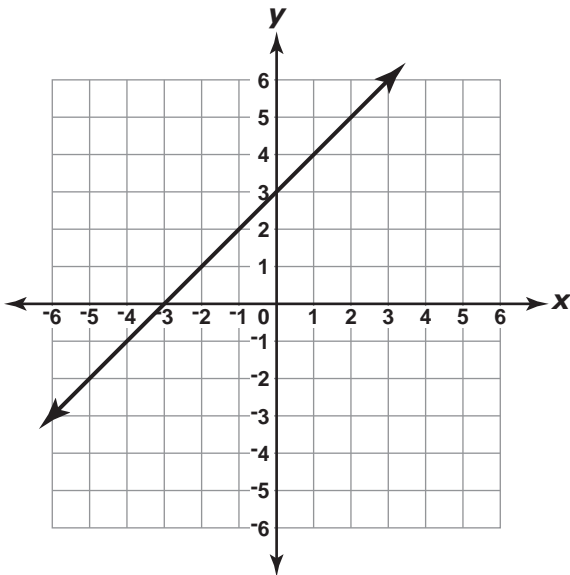
F



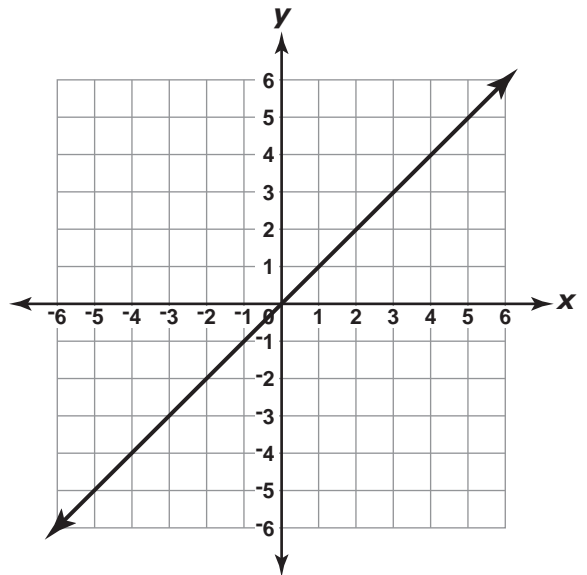
G



H



J



11

x	0	3	6	9
$f(x)$	-5	-3	-1	1

What is the slope of the line defined by the points in the table?

A $-\frac{8}{3}$

B $-\frac{2}{3}$

C $\frac{2}{3}$

D $\frac{8}{3}$

12 What is the slope of a line perpendicular to the line represented by $y = 2x + 3$?

F $-\frac{1}{2}$

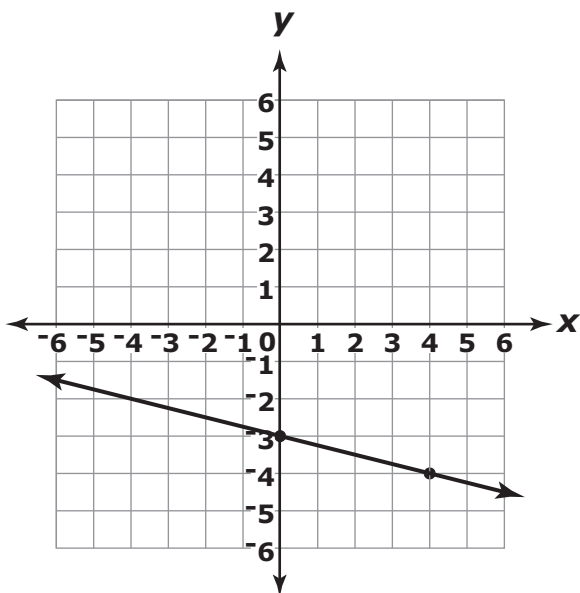
G $\frac{1}{2}$

H $-\frac{1}{3}$

J $\frac{2}{3}$

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What is the equation of this graphed line?

- A $y = -4x - 3$
- B $y = -\frac{1}{4}x - 3$
- C $y = \frac{1}{4}x + 3$
- D $y = 4x + 3$

- 14 The table below shows the amount of money Jerry's Tree Service charges for various hours of work.

Jerry's Tree Service Rates

Number of Hours	1	2	3	6	8
Amount Charged	\$12	\$18	\$24	\$42	\$54

Which equation represents the amount charged (y), in dollars, for x hours of work?

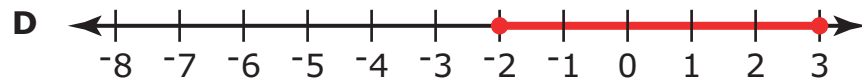
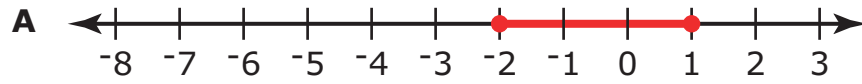
- F $y = 12x$
- G $y = 6x + 6$
- H $y = 2x + 10$
- J $y = 8x + 4$

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$$8 \geq 4 - 2x \geq -2$$

Which number line represents the solution to this inequality?



16

$$-x + 7 \geq -(4x + 2)$$

What is the solution to this inequality?

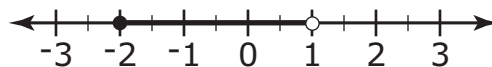
F $x \geq -3$

G $x \leq -3$

H $x \leq -1$

J $x \geq -1$

17



Which inequality matches this number line?

A $-2 < x \leq 1$

B $-2 \leq x \leq 1$

C $-2 \leq x < 1$

D $-2 < x < 1$

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$$\begin{cases} 2x + 5y = 5 \\ 5x + 12y = -2 \end{cases}$$

What is the solution to this system of equations?

- F (1, -1)
- G (-17, 7)
- H (-70, 29)
- J (-85, 35)

19

$$\begin{aligned} y &= x + 4 \\ y &= 2x - 1 \end{aligned}$$

What is the y -value of the solution to this system of equations?

- A 3
- B 5
- C 7
- D 9

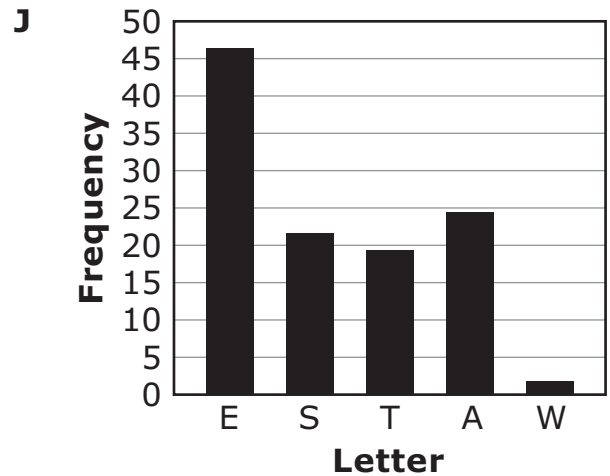
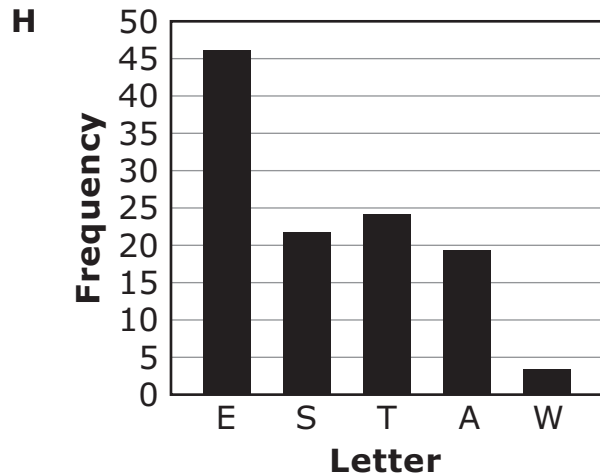
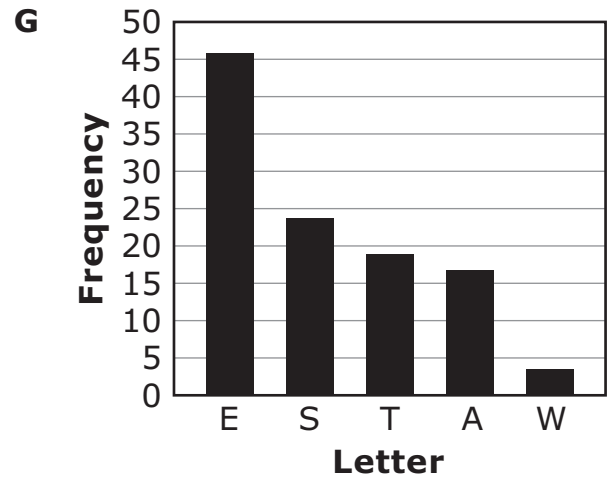
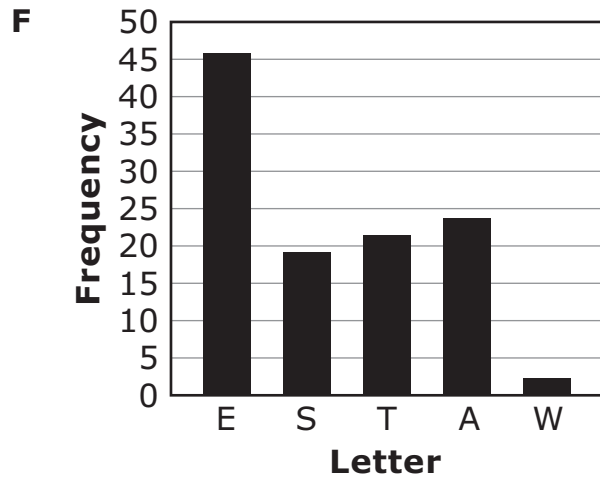
20

The table below shows the number of letters in a paragraph.

Letter Frequency

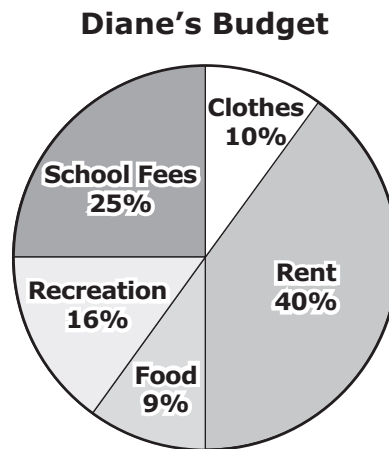
E	S	T	A	W
46	22	19	24	2

Which graph represents this data?



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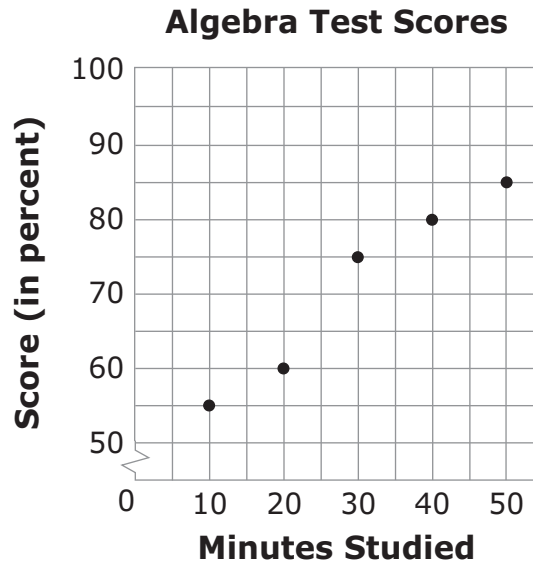
21 Diane budgets her monthly salary according to the circle graph below.



Diane earns \$1,200 each month. Approximately how much of her monthly salary does she spend on school fees and clothes combined?

- A \$120
- B \$300
- C \$341
- D \$420

- 22 The scatter plot below shows the number of minutes Richard studied and the scores, in percent, Richard earned on 5 Algebra tests.



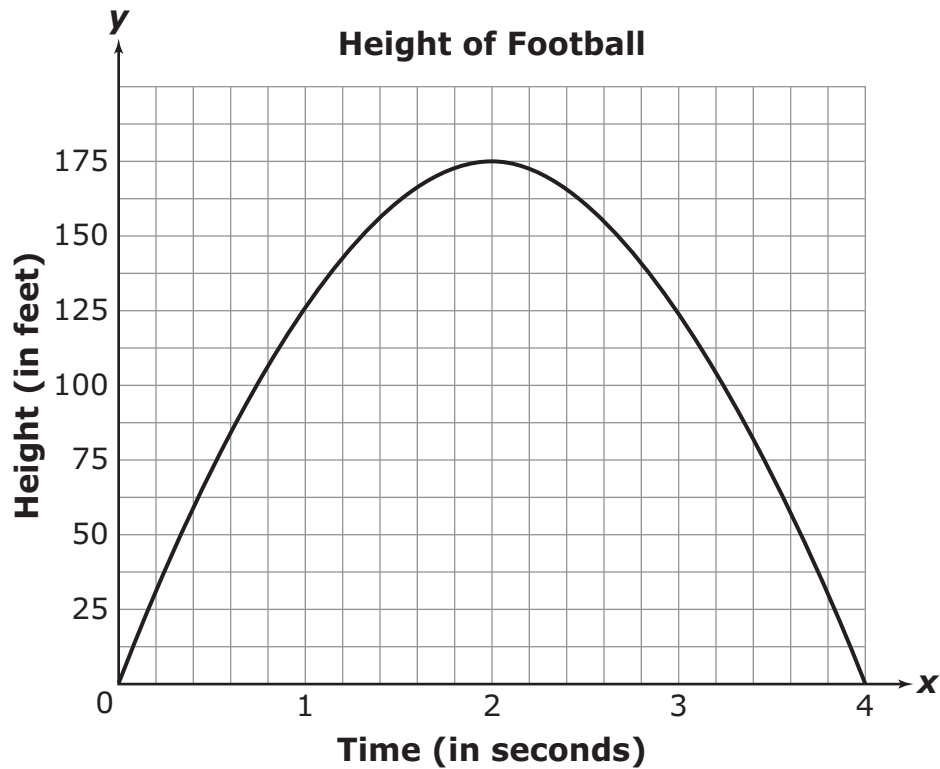
What does the scatter plot imply about the relationship between the number of minutes Richard studies and his test scores?

- F** The less Richard studies, the higher the score he earns.
- G** The longer Richard studies, the lower the score he earns.
- H** The longer Richard studies, the higher the score he earns.
- J** There is no relationship between the number of minutes Richard studies and his test scores.

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Use the information below to answer Numbers 23 through 25.

The graph shows the height of a football from the time it was kicked until it landed.



23 For how many seconds was the height of the ball increasing?

- A** 1
- B** 2
- C** 3
- D** 4

24 What was the approximate height of the football 1 second after it was kicked?

- F** 100 feet
- G** 125 feet
- H** 160 feet
- J** 175 feet

25 As soon as the ball was kicked, the kicker's teammates began running at an average speed of 30 feet per second. Approximately how far did the teammates run while the ball was in the air?

- A** 7.5 feet
- B** 15 feet
- C** 60 feet
- D** 120 feet



STOP

END OF SECTION 1

