

No calculators allowed on items 1 to 8.

1. Enter the value of  $\frac{3}{4} + \frac{7}{12} - (-4)$ .

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

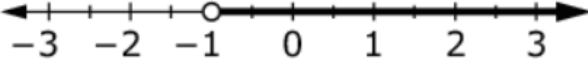
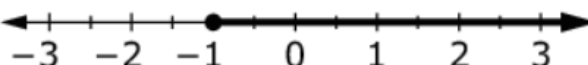
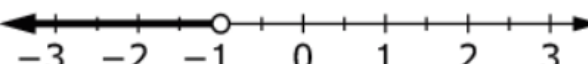
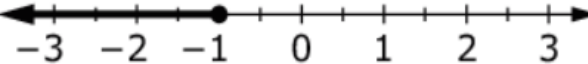
2. Mark buys a wooden board that is  $7\frac{1}{2}$  feet long. The cost of the wooden board is \$0.50 per foot, including tax.

Enter the total cost in dollars of the wooden board.

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

3. Which number line shows the solution to the inequality

$$-3x - 5 < -2?$$

- A. 
- B. 
- C. 
- D. 

4. Enter the value of the expression.

$$2.3 \bullet (4 + 12)$$

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

5. Enter the value of  $p$  so the expression  $\frac{5}{6} - \frac{1}{3}n$  is equivalent to  $p(5 - 2n)$ .

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

6. A representative sample of 50 students from a high school is surveyed. Each student is asked what science class he or she is taking.

This table shows the responses.

Science Class	Number of Students
Physics	6
Chemistry	10
Biology	18
Earth Science	4
Health Science	12

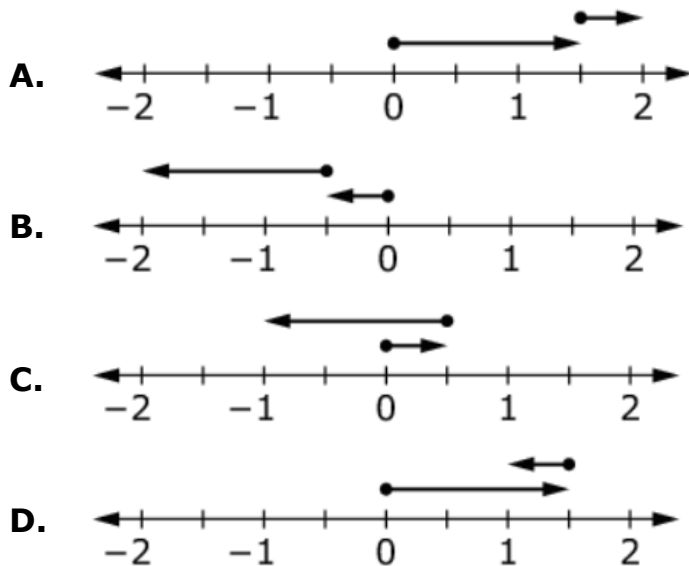
Select **all** of the statements that are valid based on the survey results.

- About 20% of students at the high school are taking Chemistry.
- About twice as many students are taking Health Science than are taking Physics.
- About twice as many students are taking Health Science than are taking Physics.
- For every 150 students we could predict that at least 18 of the students are taking Physics.
- For every 25 students we could predict that at least 4 of the students are taking Earth Science.

7. George earns \$455 per week. George receives a 20% raise.  
How can George calculate his new weekly pay rate?  
Select all calculations that will result in George's new weekly pay rate.

- divide \$455 by 0.20
- divide \$455 by 1.20
- multiply \$455 by 0.20
- multiply \$455 by 1.20
- solve for  $x$ :  $\frac{x}{455} = \frac{120}{100}$
- solve for  $x$ :  $\frac{455}{x} = \frac{20}{100}$

8. Which number line model represents the sum of  $1\frac{1}{2} + (-\frac{1}{2})$ ?



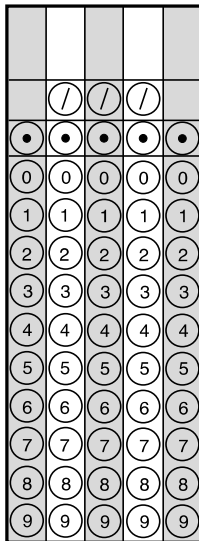
Calculators allowed on following items.

9. This table shows a proportional relationship between  $x$  and  $y$ .

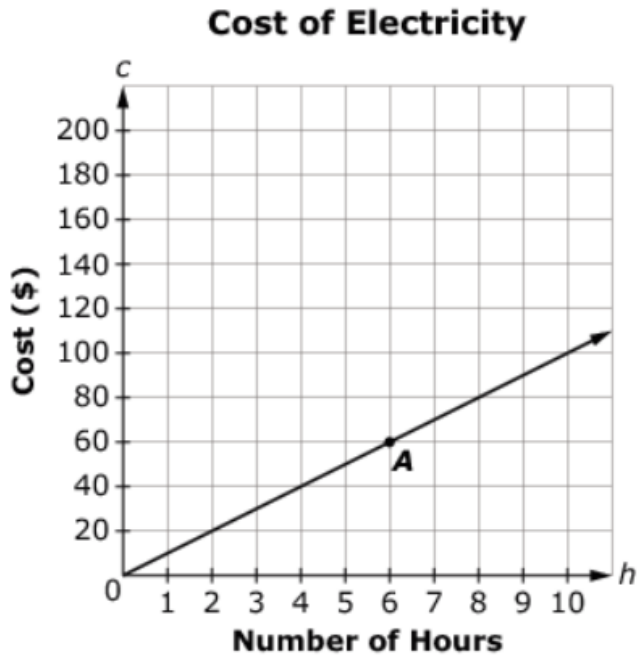
$x$	$y$
4	48
5	60
8	96

Find the constant of proportionality ( $r$ ).

Using the value for  $r$ , enter an equation in the form of  $y = rx$ .



10. This graph shows a proportional relationship between the number of hours ( $h$ ) a business operates and the total cost ( $c$ ) of electricity.



Select True or False for each statement about the graph.

	True	False
Point A represents the total cost of electricity when operating the business for 6 hours.	<input type="checkbox"/>	<input type="checkbox"/>
The total cost of electricity is \$8 when operating the business for 80 hours.	<input type="checkbox"/>	<input type="checkbox"/>
The total cost of electricity is \$10 when operating the business for 1 hour.	<input type="checkbox"/>	<input type="checkbox"/>

- 11.** Determine whether each statement is true for all cases, true for some cases, or not true for any case.

	<b>True for all cases</b>	<b>True for some cases</b>	<b>Not true for any cases</b>
Two vertical angles form a linear pair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If two angles are supplementary and congruent, then they are right angles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The sum of two adjacent angles is $90^\circ$ .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The measure of an exterior angle of a triangle is greater than every interior angle of the triangle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



- 12.** David uses  $\frac{1}{2}$  cup of apple juice for every  $\frac{1}{4}$  cup of cranberry juice to make a fruit drink.

Enter the number of cups of apple juice David uses for 1 cup of cranberry juice.

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

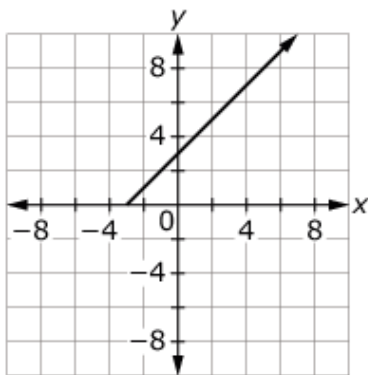
- 13.** Aimee has \$10 to spend on school supplies. The following table shows the price of each item in the school store. No sales tax is charged on these items.

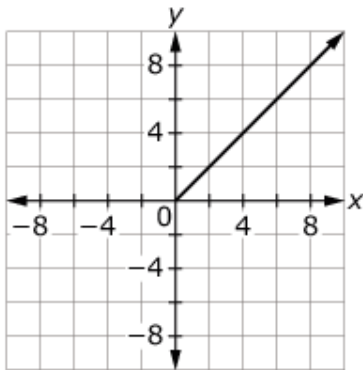
<b>Item</b>	<b>Price</b>
Eraser	\$0.89
Folder	\$1.29
Notebook	\$2.35
Pen	\$0.70

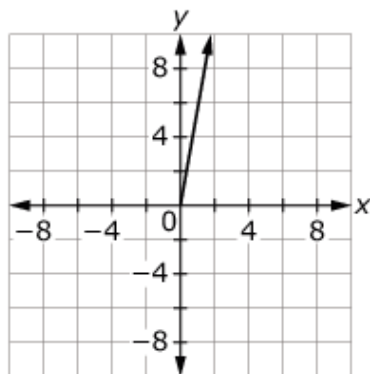
Determine if Aimee can buy the combination of items with her \$10. Select Yes or No for each combination of items.

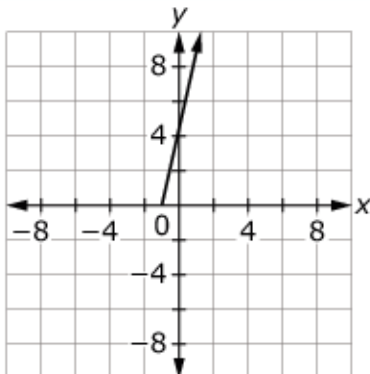
	<b>Yes</b>	<b>No</b>
5 folders and 5 pens	<input type="checkbox"/>	<input type="checkbox"/>
6 pens and 6 erasers	<input type="checkbox"/>	<input type="checkbox"/>
1 pen and 4 notebooks	<input type="checkbox"/>	<input type="checkbox"/>
3 folders and 7 erasers	<input type="checkbox"/>	<input type="checkbox"/>
4 folders and 2 notebooks	<input type="checkbox"/>	<input type="checkbox"/>

14. Select **all** the graphs that show a proportional relationship between  $x$  and  $y$ .

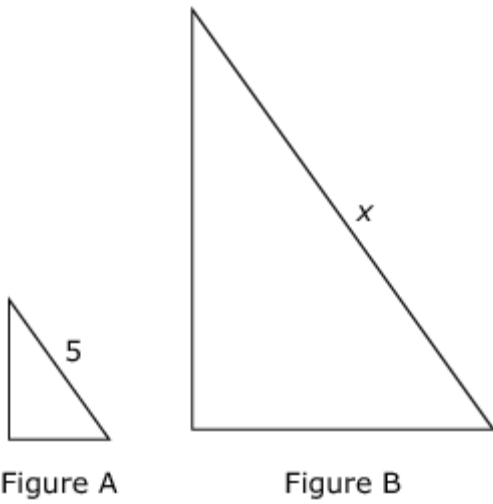








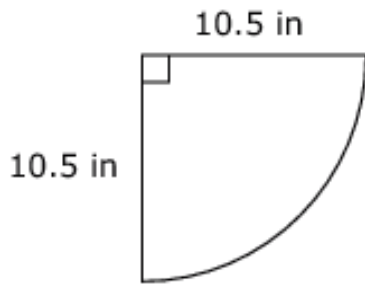
**15.** A scale factor of 3.5 maps Figure A unto Figure B.



Enter the value of  $x$ .

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

16. A corner shelf is  $\frac{1}{4}$  of a circle and has a radius of 10.5 inches.



Enter the area of the shelf in square inches. Round your answer to the nearest tenth.

	/	/	/	
•	•	•	•	•
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

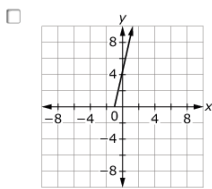
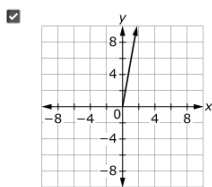
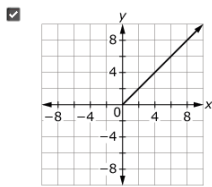
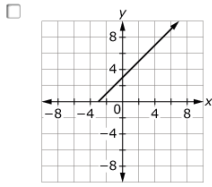
### Answer Key

1.  $5\frac{1}{3}$
2. \$3.75
3. A
4. 36.8
5.  $\frac{1}{6}$
6. Yes, Yes, Yes, No
7. No, No, No, Yes, Yes, No
8. D
9.  $r = 12, y = 12x$
10. True, False, True
- 11.

	True for all cases	True for some cases	Not true for any cases
Two vertical angles form a linear pair.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If two angles are supplementary and congruent, then they are right angles.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The sum of two adjacent angles is $90^\circ$ .	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The measure of an exterior angle of a triangle is greater than every interior angle of the triangle.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

12. 2 cups
13. Yes, Yes, No, No, Yes

14.



15. 17.5

16. 86.6 square inches