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Linear Relationship in the Form of an Equation

1. Write an equation which represents the rule: Divide by 20 and add 10. Find the value of output (y) for input (x) = 4, 8 and 10.

Solution:

2. Write an equation which represents the rule: Multiply by 3 and subtract 4. Find the value of output (y) for input (x) = 5, 7 and 9.

Solution:

1. Which of the following rules will always give the same output regardless of the input?
   A. Multiply by 0 and add by 30
   B. Divide by 4 and subtract 2
   C. Multiply by 1 and add 50
   D. None of these

Solution:

3. Find a rule. Complete the equation and the function table.

X	2	4	5	8		11
Y	8	14			29	35

Y = ___X + ___

X	1	3	4	6		9
Y	6	16			36	46

Y = ___X + ___

X	-3	-1	0	1		100
Y	40	40			40	40

Y = ___X + ___

4. Taxi fare for a distance travelled in miles is calculated as: $7 times the distance travelled + $4 Calculate the fare for each of the following distances.

Distance travelled (miles)	*Fare ($)*
4	
6	
8	
10	
12	

5. If y = 3x – y, which of these values can be true for y:
   A. 3 B. 0 C. -2 D. All of these

Solution:

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Linear Relationship in the Form of an Equation

Answer Key

1. Write an equation which represents the rule: Divide by 20 and add 10. Find the value of output (y) for input (x) = 4, 8 and 10.

Solution:
$y = \frac{x}{20} + 10$; 10.2, 10.4, 10.5

2. Write an equation which represents the rule: Multiply by 3 and subtract 4. Find the value of output (y) for input (x) = 5, 7 and 9.

Solution:
y = 3x – 4; 11, 17, 23

3. Which of the following rules will always give the same output regardless of the input?
   A. Multiply by 0 and add by 30
   B. Divide by 4 and subtract 2
   C. Multiply by 1 and add 50
   D. None of these

Solution:
A

4. Find a rule. Complete the equation and the function table.

X	2	4	5	8	9	11
Y	8	14	17	26	29	35

Y = 3X + 2

X	1	3	4	6	7	9
Y	6	16	21	31	36	46

Y = 5X + 1

X	-3	-1	0	1	Any value	100
Y	40	40	40	40	40	40

Y = 0X + 40

5. Taxi fare for a distance travelled in miles is calculated as: $7 times the distance travelled + $4 Calculate the fare for each of the following distances.

Distance travelled (miles)	*Fare ($)*
4	32
6	46
8	60
10	74
12	88

6. If y = 3x – y, which of these values can be true for y:
   A. 3 B. 0 C. -2 D. All of these

Solution:
D