

Grade 6 · Dependent and Independent Variables · Quiz

Common Core 6.EE.C.9 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This 10-question multiple-choice quiz checks independent and dependent variables in Grade 6: equations, tables, and graphs (6.EE.C.9). Pick one answer for each question and read the explanation to see the typical mistake.

Grade 6 Common Core: 6.EE.C.9

Questions

Question 1

In the equation $d = 65t$, which variable is independent?

- A. d
- B. 65
- C. $65t$
- D. t

Question 2

Mei earns money for each hour she babysits. Which quantity is the dependent variable?

- A. The hours she works
- B. The dollars she earns
- C. The hourly rate
- D. The day of the week

Question 3

Notebooks cost each. Which equation gives the cost c of n notebooks?

- A. $n = 7c$
- B. $c = n + 7$
- C. $c = 7 - n$
- D. $c = 7n$

Question 4

What is the value of d in $d = 65t$ when $t = 3$?

- A. 68
- B. 130
- C. 195
- D. 62

Question 5

The table shows the pay p for t hours. Which equation matches it?

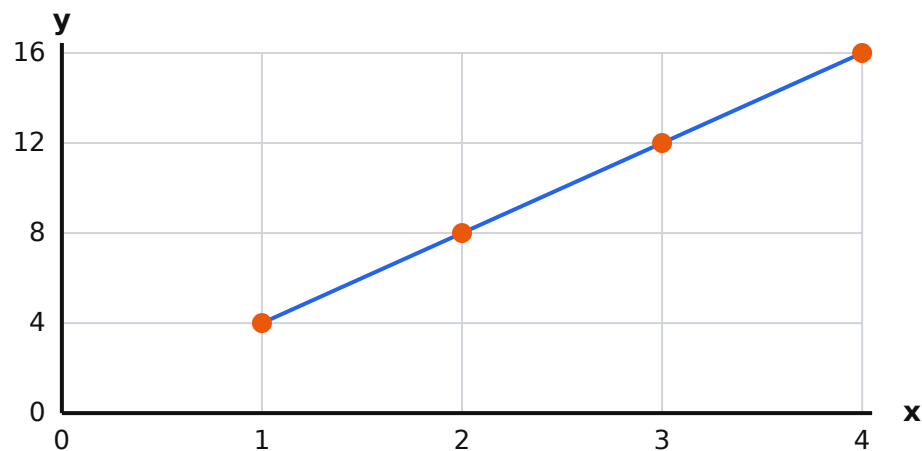
t	p
1	12
2	24
3	36
4	48

Pay for t hours.

- A. $p = t + 12$
- B. $p = 12t$
- C. $p = 12 - t$
- D. $t = 12p$

Question 6

The graph shows y for different values of x . What is y when $x = 3$?

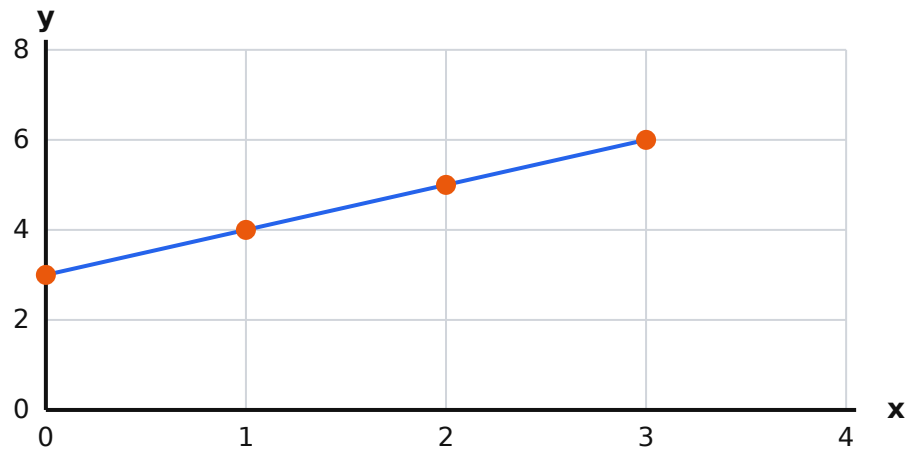


Graph of y against x .

- A. 8
- B. 16
- C. 12
- D. 7

Question 7

The graph shows the points for a rule. Which equation matches the graph?



Graph of y against x.

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

Question 8

What is the value of y in $y = x + 5$ when $x = 7$?

- A. 12
- B. 35
- C. 2
- D. 57

Question 9

Which ordered pair is a point of the graph of $y = 4x$?

- A. (3,12)
- B. (3,7)
- C. (4,3)
- D. (12,3)

Question 10

Mei walks dogs for per hour. Which statement is correct?

- A. Hours depend on pay, so pay is the independent variable
- B. Pay and hours are both dependent variables
- C. Pay depends on hours, so hours is the independent variable
- D. The rate 11 is the dependent variable

Answer key

1. **D** - Time t is the input, and distance d depends on it. The number 65 is the rate, which is a constant.
2. **B** - The dollars earned depend on the hours worked, so the money is dependent and the hours are independent.
3. **D** - Cost is price times number of notebooks, $c = 7n$. Adding 7 would not match buying more notebooks.
4. **C** - $d = 65 \times 3 = 195$. Adding $65 + 3$ gives the mistaken 68.
5. **B** - Each pay value is 12 times the hours: 12, 24, 36, 48. An addition rule would not triple at $t = 3$.
6. **C** - Go up from $x = 3$ to the graph and across: $y = 12$. The value 8 belongs to $x = 2$.
7. **D** - The points are $(0,3)$, $(1,4)$, $(2,5)$, $(3,6)$, so y is always 3 more than x .
8. **A** - Add: $7 + 5 = 12$. Multiplying gives the mistaken 35.
9. **A** - Substitute $x = 3$: $y = 4 \times 3 = 12$. The pair $(12,3)$ reverses the order of the coordinates.
10. **C** - The pay is determined by the hours worked, so hours is independent and pay is dependent. The rate stays constant.

Remember:

- The independent variable is the input; the dependent variable is the output that depends on it.
- In $d = 65t$, time t is independent and distance d is dependent.
- The independent variable goes on the horizontal axis and the dependent variable on the vertical axis.
- Each row of a table is an ordered pair: $t = 3$ and $d = 195$ give the point $(3,195)$.