

Activating Prior Knowledge

Order of Operations

Quick Review

Recall this order of operations.

Brackets

Perform operations inside the brackets.

Divide and multiply

Do in order from left to right.

Add and subtract

Do in order from left to right.

Example

Simplify.

a) $6 + 3 \times 4$

b) $(5 + 3) \div 2$

c) $18 \div 3 \times 2$

Solution

$$\begin{array}{l} \text{a) } 6 + 3 \times 4 = 6 + 12 \\ \quad \quad \quad = 18 \end{array}$$

Multiply first.
Then add.

$$\begin{array}{l} \text{b) } (5 + 3) \div 2 = 8 \div 2 \\ \quad \quad \quad = 4 \end{array}$$

Add in brackets first.
Then divide.

$$\begin{array}{l} \text{c) } 18 \div 3 \times 2 = 6 \times 2 \\ \quad \quad \quad = 12 \end{array}$$

Divide first.
Then multiply.

Check

1. Simplify.

a) $5 \times 7 + 2$

b) $5 \times (7 + 2)$

c) $13 + 2 \times 8$

d) $13 + 2 - 8$

e) $13 + 8 \div 2$

f) $13 - 8 \div 2$

g) $12 \div 4 + 2$

h) $12 \div (4 + 2)$

i) $12 + 4 \div 2$

2. a) Simplify.

i) $3 + 4 \times 2 + 5$

ii) $3 \times 4 + 2 \times 5$

iii) $3 \times (4 + 2) \times 5$

iv) $3 \times (4 + 2) + 5$

v) $3 \times 4 \times 2 + 5$

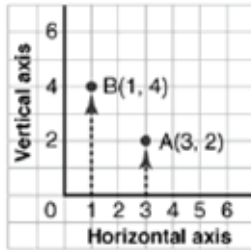
vi) $3 + 4 + 2 \times 5$

b) All the operations in part a have the same numbers and the same operations. Why are the answers different?

Graphing on a Coordinate Grid

Quick Review

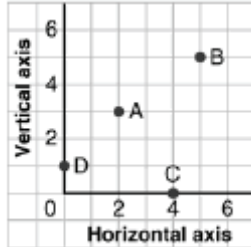
(3, 2) is an ordered pair. It tells the position of a point on a grid.
 In an ordered pair, the first number is the horizontal distance from the origin, O.
 The second number is the vertical distance from the origin.
 We use a letter to label the point.
 To plot point A(3, 2), start at 3 on the horizontal axis, then move up 2.
 To plot point B(1, 4), start at 1 on the horizontal axis, then move up 4.



The numbers in an ordered pair are also called the *coordinates* of a point.

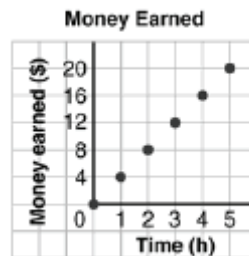
Check

3. Write the ordered pair for each point on the grid.



4. On grid paper, draw a grid.
 Plot and label these points.
 A(2, 9), B(5, 3), C(8, 8), D(0, 10)

5. The graph shows the money earned for the time worked.
 a) How much money was earned in 4 h?
 b) How long will it take to earn \$12.00?
 c) What is the hourly rate of pay?



Sample Answers: Activating Prior Knowledge

Unit 1

Order of Operations

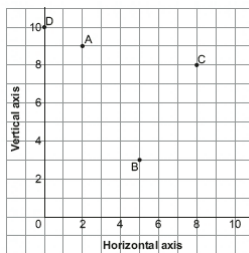
1. a) 37 b) 45 c) 29
d) 7 e) 17 f) 9
g) 5 h) 2 i) 14
2. a) i) 16 ii) 22 iii) 90
iv) 23 v) 29 vi) 17

b) The answer depends on the order in which we carry out the operations.

Graphing on a Coordinate Grid

3. A(2, 3); B(5, 5); C(4, 0); D(0, 1)

4.



5. a) \$16 b) 3 h c) \$4/h