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Ch11: Integers, Graphs, and Functions

11-1: Integers in Real-World Situations

EX1) Name a positive or negative number to represent each situation.

a) a jet climbing to an altitude of 20,000 *feet*.

b) taking \$15 out of the bank

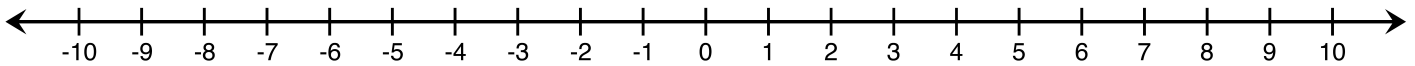
c) 7 *degrees* below zero

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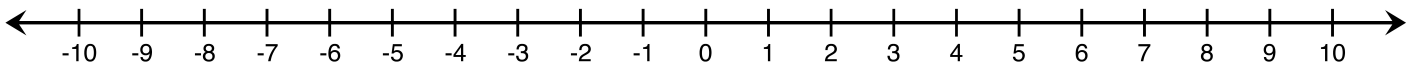
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EX2) Graph each integer and its opposite on a number line.

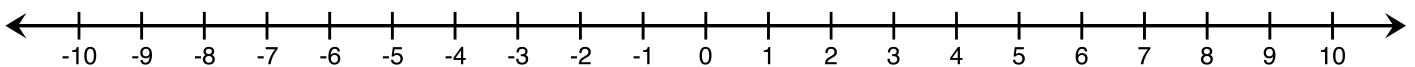
a) 2



b) -5



c) +1



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EX3) Mark enters his office building on the *ground floor*. Using the elevator, he goes *up 6 floors* to place a call, then *down 4 floors* for lunch, and then *up 8 floors* for a meeting. Write an expression to represent this situation.

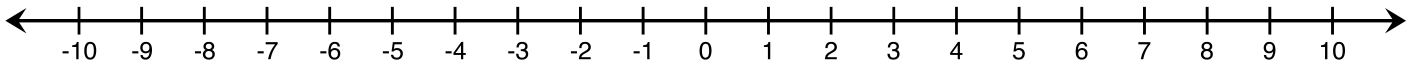
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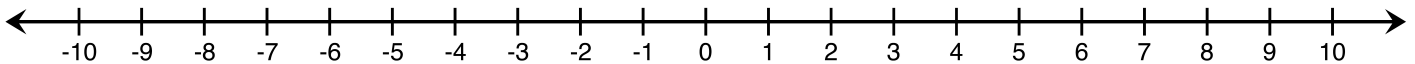
11-2: Comparing and Ordering Integers

EX1) Use a number line to compare each pair of integers. Write $<$ or $>$.

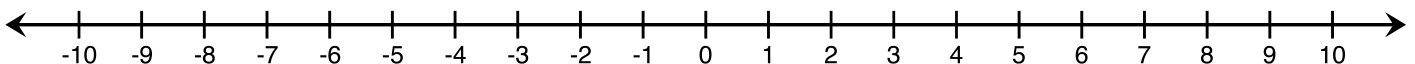
a) -2 2



b) 3 -5



c) -1 -4



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EX2) Order the integers in each set from least to greatest.

a) $-2, 3, -1$

b) $4, -3, -5, 2$

EX3) In a golf match, Craig scored $+2$, Cameron scored $+3$, and Rob scored -1 . Who won the golf match?

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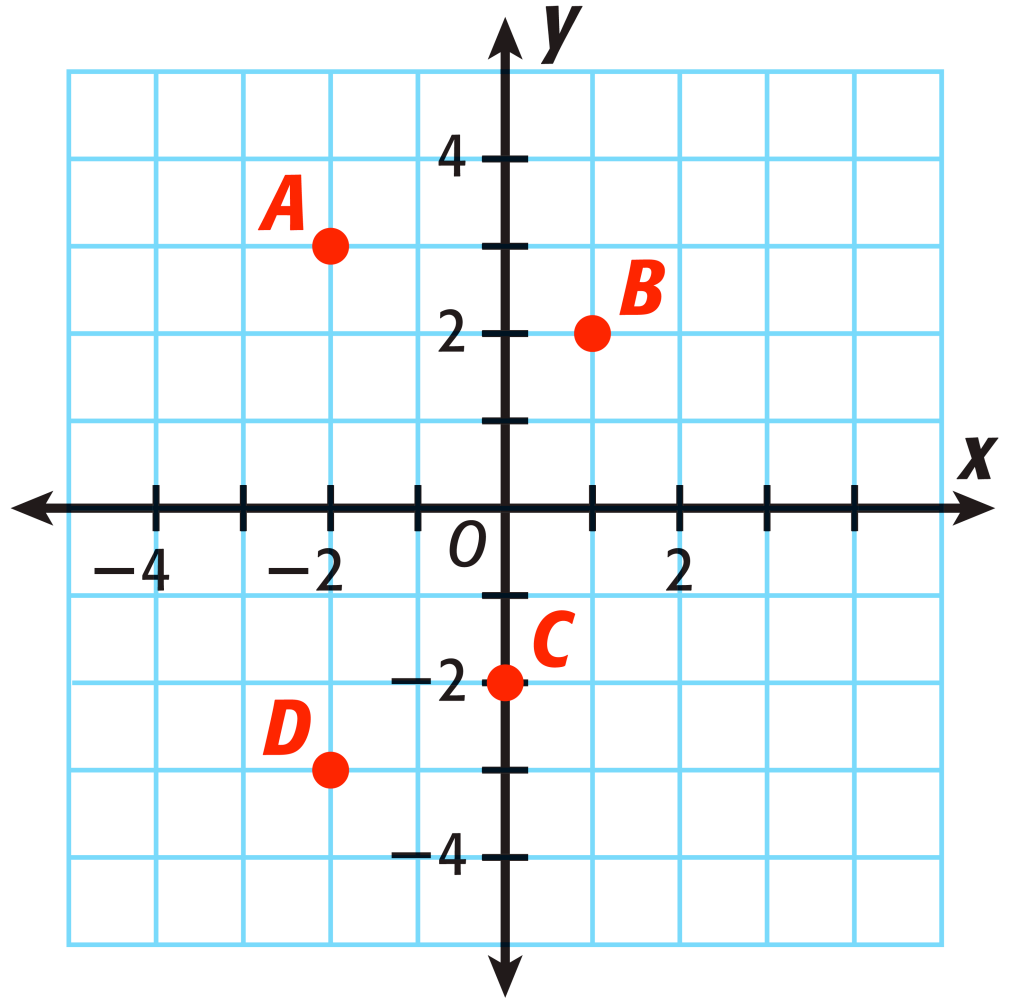
11-3: The Coordinate Plane

EX1) Name the quadrant where each point is located.

a) *A*

b) *B*

c) *D*



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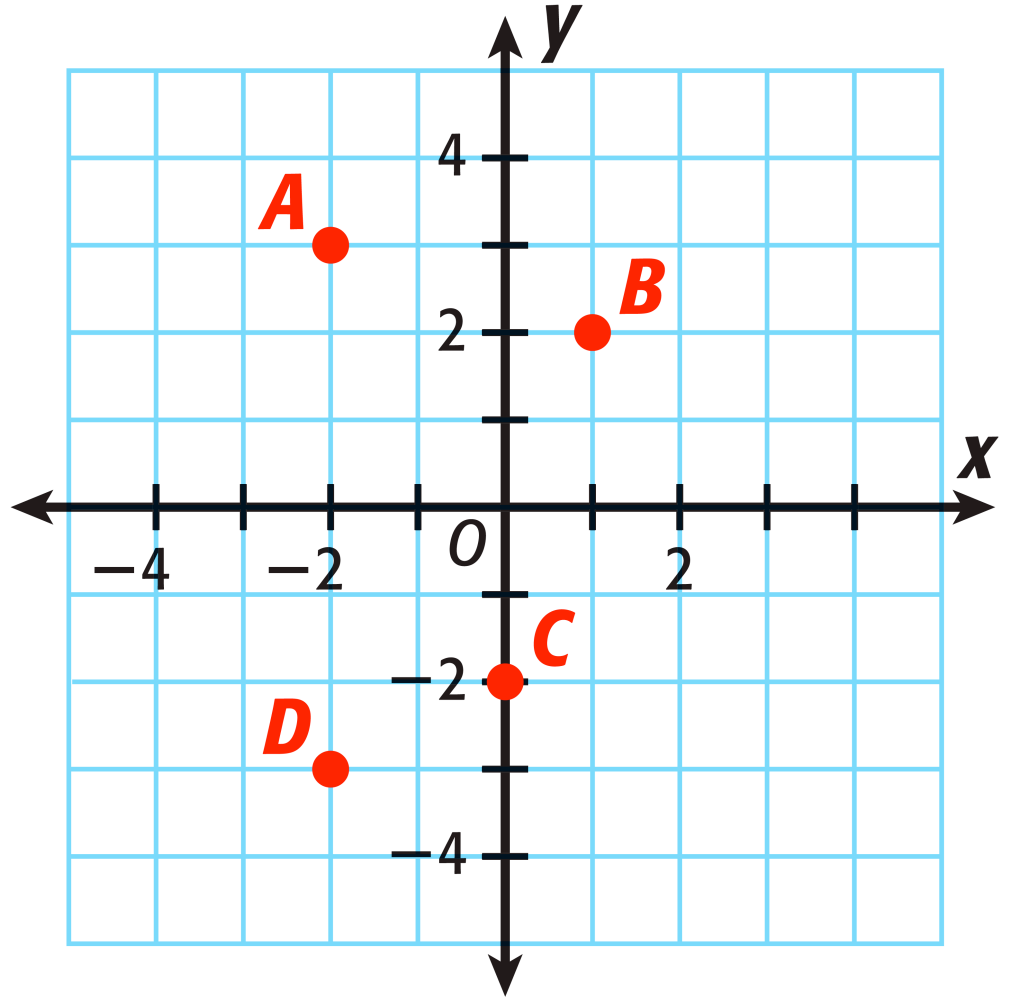
EX2) Give the coordinates of each point.

a) *A*

b) *B*

c) *C*

d) *D*

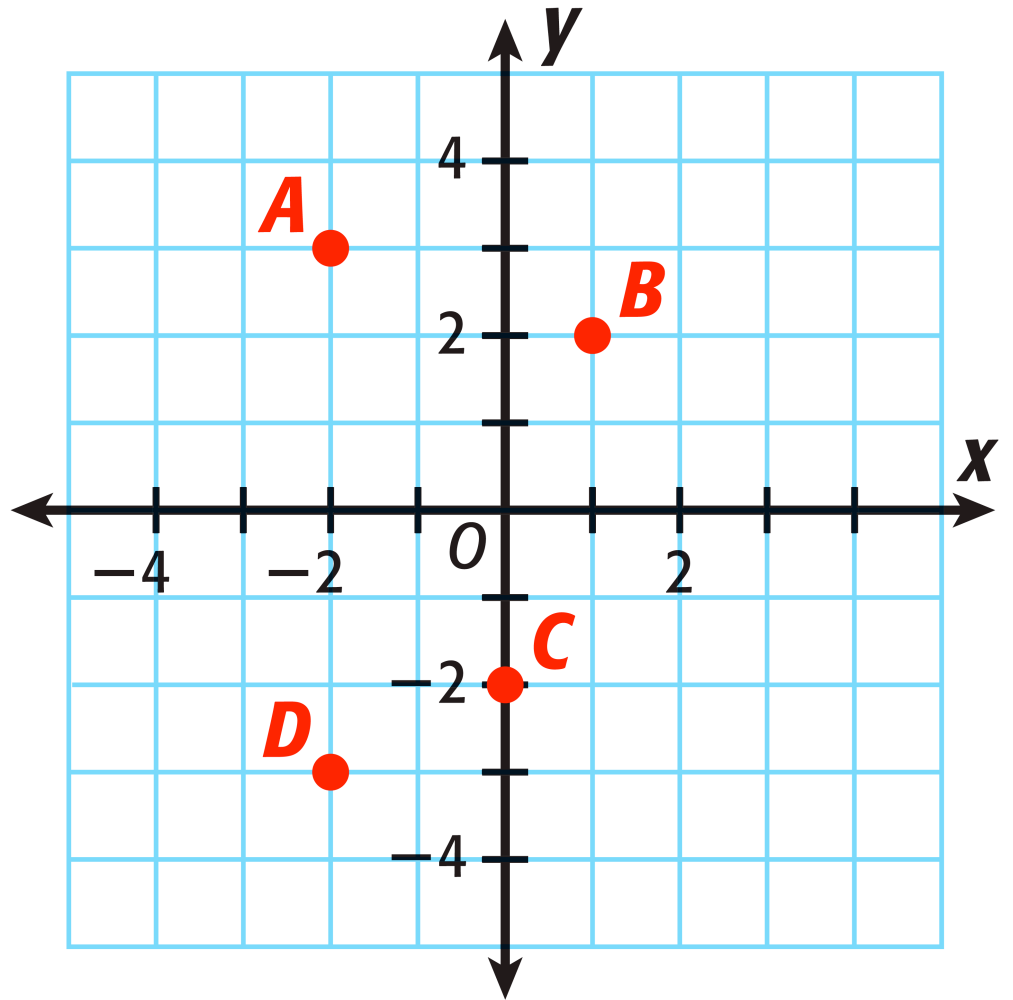


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EX3) Graph each point on the coordinate plane.

- a) $V (4, 2)$
- b) $W (-3, 1)$
- c) $Z (0, 4)$
- d) $T (1, -3)$



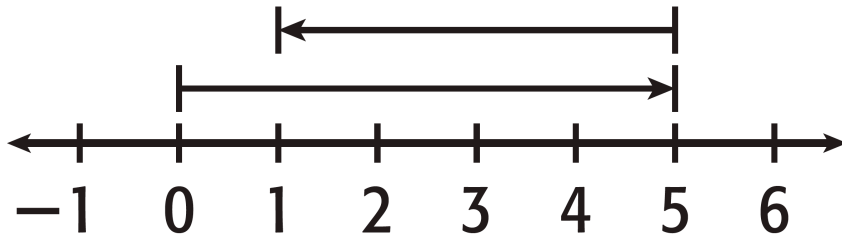
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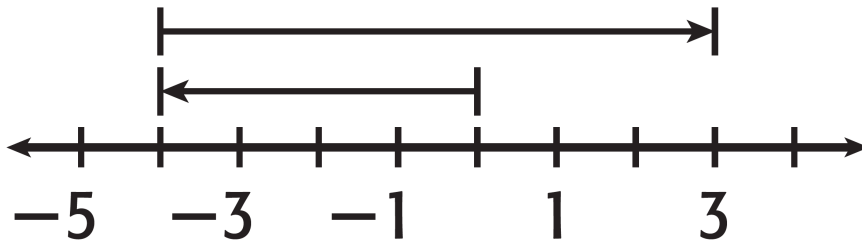
11-4: Adding Integers

EX1) Write the addition modeled on each number line.

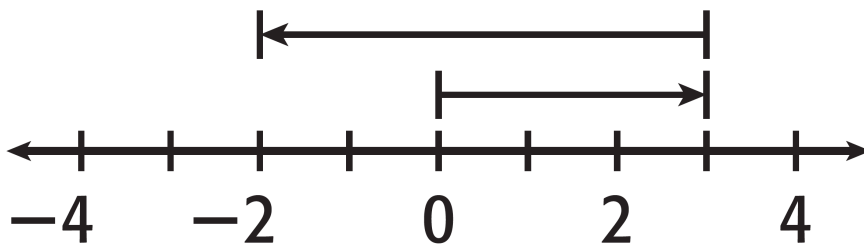
a)



b)



c)



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EX2) Find the sum.

a) $-3 + (-2)$

b) $6 + (-8)$

EX3) Evaluate $y + (-2)$ for $y = 7$.

EX4) A sunken ship is 12 *m* below sea level. A search plane flies 35 *m* above the sunken ship. How far above the sea is the plane?

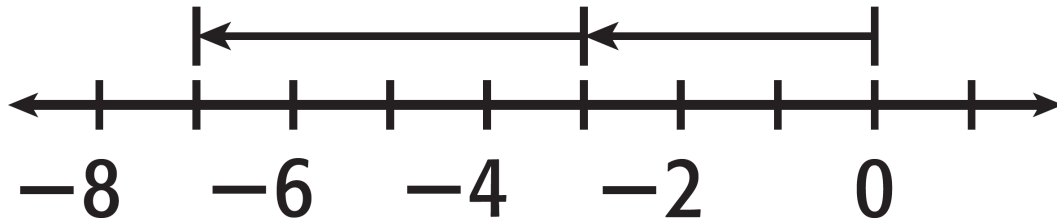
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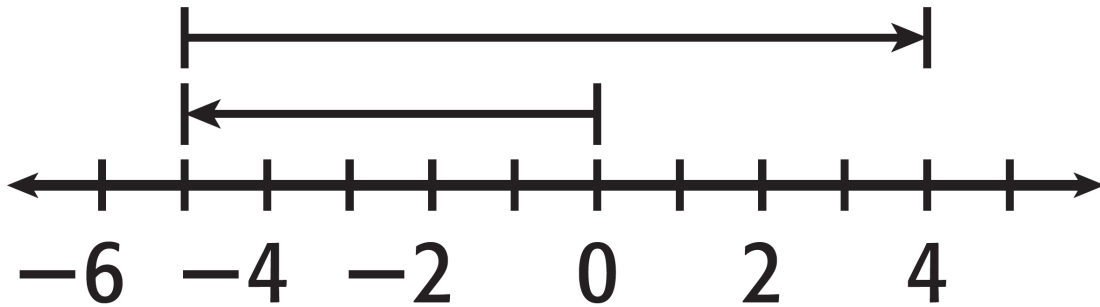
11-5: Subtracting Integers

EX1) Write the subtraction modeled on each number line.

a)



b)



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EX2) Find each difference

a) $3 - 6$

b) $3 - (-3)$

EX3) *Evaluate $a - 4$ for $a = 2$.*

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11-6: Multiplying Integers

EX1) Find each product

a) $5 \cdot 2$

b) $4 \cdot (-5)$

c) $-5 \cdot 2$

d) $-2 \cdot (-4)$

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EX2) *Evaluate $-7x$ for each value of x .*

a) $x = -3$

b) $x = 5$

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11-7: Dividing Integers

EX1) Find each quotient.

a) $-30 \div 6$

b) $-42 \div (-7)$

EX2) Evaluate $\frac{d}{4}$ for each value of d .

a) $d = 16$

b) $d = -24$

c) $d = -12$

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11-8: Solving Integer Equations

EX1) Solve each equation.

a) $-8 + y = -13$

b) $n - 2 = -8$

EX2) Solve each equation.

a) $4m = -20$

b) $\frac{x}{3} = -7$

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11-9: Tables and Functions

EX1) Write an equation for a function that gives the values in the table.
Use the equation to find the value of y for the indicated value of x .

x	3	4	5	6	7	10
y	13	16	19	22	25	

EX2) Write an equation for the function. Tell what each variable you use represents.

The height of a painting is 7 times its width.

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EX3) The school choir tracked the number of tickets sold and the total amount of money received. The choir members received \$80 *for 20 tickets*, \$88 *for 22 tickets*, and \$108 *for 27 tickets*. If each ticket costs the same, write an equation for the function.

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11-10: Graphing Functions

EX1) Use the given x – *values* to write solutions of the equation as ordered pairs.

$$y = 4x + 2; x = 1, 2, 3, 4$$

EX2) Determine whether the ordered pair is a solution to the given equation.

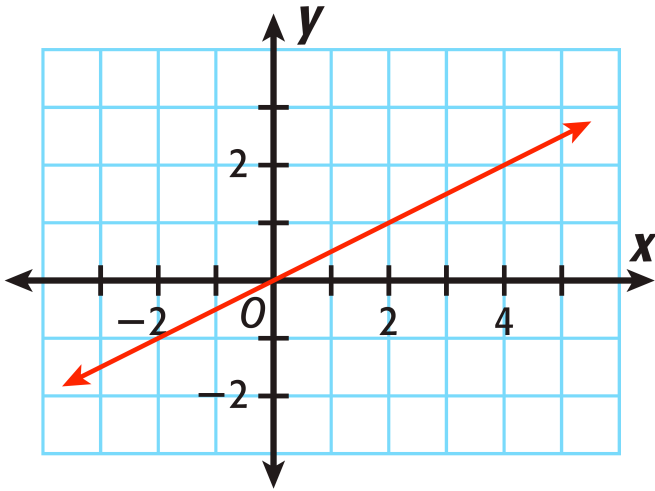
$$(3, 21); y = 7x$$

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EX3) Use the graph of the linear function to find the value of y for the given value of x .

$$x = 4$$



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EX4) Graph the function described by the equation.

$$y = -x - 2$$

