Name _____ Date _____ Period _____

LESSON 7-1 · HOMEWORK PACKET · SHEET 1 OF 2

Integers and Opposites

Maryland Standard 6.NS.C.5 · Learning target – I can write an integer for a real situation and name its opposite.

REMEMBER

- **Integers**: … −3, −2, −1, 0, 1, 2, 3 …
- **Positive** = above 0 (gain, up). **Negative** = below 0 (loss, down).
- **Opposites** are the same distance from 0 on different sides: 6 and −6.

WORKED EXAMPLE

A diver swims 18 feet below sea level. Write an integer for her depth and its opposite.

Step 1 Below sea level is less than 0: −18.

Step 2 The opposite is 18 units from 0 on the other side: 18.

Answer **−18 feet; opposite 18**

PRACTICE

show your work · label units

1. Write an integer for each situation.

a. a loss of 12 yards _____

b. a deposit of $40 _____

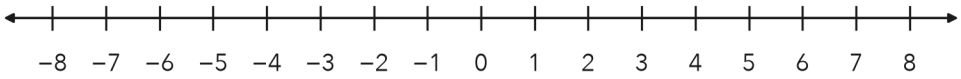
c. 9 floors below the street _____

d. 15 degrees above zero _____

e. a $25 withdrawal _____

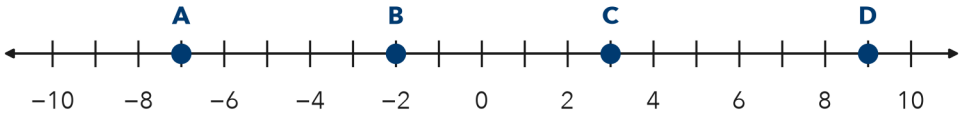
f. a gain of 7 pounds _____

2. Plot −6 and its opposite on the number line. Label each point with its value.



How far is each point from 0? _____ units

3. Write the integer for each point. Then write its opposite.



Point	A	B	C	D
Integer				
Opposite				

4. **Find the Error.** Keisha says the opposite of −15 is −15, because opposites keep the same number. Explain her mistake. Write the correct opposite.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME With someone at home, name a temperature on a weather report. Then name its opposite.

Name _____ Date _____ Period _____

LESSON 7-1 · HOMEWORK PACKET · SHEET 2 OF 2

Integers in Real Situations

Maryland Standard 6.NS.C.5 · Learning target – I can interpret integers in real situations and find the opposite of an opposite.

REMEMBER

- Positive: **above, gain, deposit**. Negative: **below, loss, withdrawal**.
- **0** is the start: sea level, a $0 balance.
- The **opposite of the opposite** is the number itself: $-(-8) = 8$.

WORKED EXAMPLE

Find the opposite of the opposite of 14.

Step 1 The opposite of 14 is −14.

Step 2 The opposite of −14 is 14.

Answer **14**

PRACTICE

show your work · label units

1. Write an integer for each situation.

a. a town 35 feet below sea level ____

b. earning $20 walking dogs ____

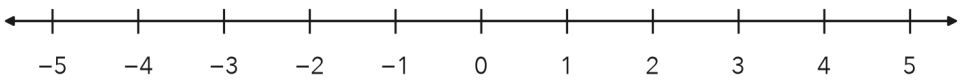
c. 4 degrees below zero ____

d. a loss of 8 yards ____

2. Find each value.

a. $-(-9) =$ _____ **b.** $-(15) =$ _____ **c.** $-(-(-4)) =$ _____

3. Start at −3. Plot point **A** at −3, point **B** at the opposite of A, and point **C** at the opposite of B.



What do you notice about points A and C? _____

4. **Weather.** At noon it was 6 degrees above zero. At midnight it was 6 degrees below zero.

a. Write an integer for each temperature. _____

b. How are the two integers related? _____

5. **Reasoning.** Marcus says the opposite of a number is always negative. Is he right? Give an example.

_____

_____

TEST PRACTICE

choose the best answer

6. Which integer describes a loss of 18 points in a game?

A 18 **B** −18 **C** $-(-18)$ **D** 0

7. Which equation is true?

A $-(-11) = -11$ **B** $-(-11) = 11$ **C** $-(11) = 11$ **D** $-(0) = 1$

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Tell someone at home a money story with a negative number. Ask what 0 means in it.

Name _____ Date _____ Period _____

LESSON 7-2 · HOMEWORK PACKET · SHEET 1 OF 2

Rational Numbers on a Number Line

Maryland Standard 6.NS.C.6c · Learning target – I can plot a rational number and its opposite on a number line.

REMEMBER

- A **rational number** can be written as a fraction a/b of two integers ($b \neq 0$). Examples: 3/4, −2.5, 7, −1 1/2.
- Between two integers, split the gap into **equal parts** (halves, fourths, tenths).
- Negative numbers sit **left of 0**. −2.5 is halfway between −3 and −2.

WORKED EXAMPLE

Plot −1.75 and its opposite on a number line.

Step 1 −1.75 is between −2 and −1. Split each unit into fourths; count 3 fourths left of −1.

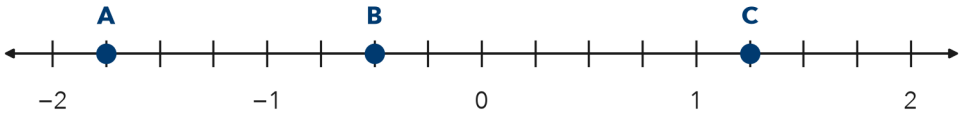
Step 2 The opposite, 1.75, is 3 fourths right of 1.

Answer **points at −1.75 and 1.75**

PRACTICE

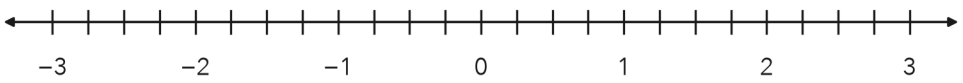
show your work · label units

1. Write the number for each point as a decimal or a fraction.



a. A = _____ **b.** B = _____ **c.** C = _____

2. Plot and label each number on the number line: −2.5, 1/2, −0.75, 1 1/4



3. Name the two integers each number is between.

a. −4.6 is between _____ **b.** 7/2 is between _____

c. −0.3 is between _____ **d.** −9/4 is between _____

4. Write a rational number for each situation.

a. a loss of $3.50 ____ **b.** a gain of 2 1/2 ft ____ **c.** 4.5 degrees below 0 ____

5. **Pond.** A frog sits 1.5 feet above a pond. A fish swims 2.25 feet below the surface (0).

a. Write a number for the frog and for the fish. _____

b. Which one is closer to the surface? _____

6. **Find the Error.** Tyrell plotted −1.5 between −1 and 0. Explain his mistake.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Find a ruler or measuring cup at home. Show someone where 1/2, 1/4, and 3/4 are.

Name _____ Date _____ Period _____

LESSON 7-2 · HOMEWORK PACKET · SHEET 2 OF 2

Opposites of Rational Numbers

Maryland Standard 6.NS.C.6a · Learning target – I can find the opposite of a rational number and explain what taking the opposite twice does.

REMEMBER

- **Opposites** are the same distance from 0: 2.5 and −2.5.
- The opposite of a negative number is **positive**.
- Taking the opposite **twice** gives back the number you started with.

WORKED EXAMPLE

Start at 3/5. Find its opposite. Then find the opposite of that.

Step 1 Opposite of 3/5 is −3/5.
Step 2 Opposite of −3/5 is 3/5.
Answer **−3/5, then 3/5**

PRACTICE

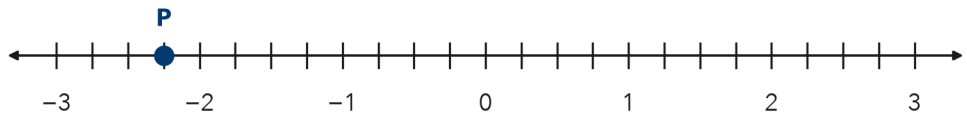
show your work · label units

1. Write the opposite of each number, or find the value.

a. 4.8 _____ **b.** −2/3 _____ **c.** −0.05 _____

d. 0 _____ **e.** −(−1.6) = _____ **f.** −(−5/8) = _____

2. Point P is shown. Plot its opposite and label it Q.



Q = _____

3. **Game Score.** Lena's game score is −12.5 points. A bonus card changes her score to its opposite. What is her new score? How far from 0 is it? _____

4. **Stretch.** Point M is 3.75 units from 0, to the left of 0. Point N is the opposite of M.

a. M = _____

b. N = _____

5. **Find the Error.** Kofi says −(−2/5) = −2/5. Explain his mistake. Give the correct value.

_____

_____

TEST PRACTICE

choose the best answer

6. What is the opposite of −7/8?

A −7/8 **B** 7/8 **C** 8/7 **D** −8/7

7. Point R is at 3.4. Where is the opposite of the opposite of R?

A −3.4 **B** 0 **C** 3.4 **D** 4.3

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Explain to someone at home why −(−1.5) is a positive number.

Name _____ Date _____ Period _____

LESSON 7-3 · HOMEWORK PACKET · SHEET 1 OF 2

Absolute Value as Distance

Maryland Standard 6.NS.C.7c · Learning target – I can use absolute value to describe how far a number is from zero.

REMEMBER

- **Absolute value** is a number's distance from 0. We write $|-7| = 7$.
- A number and its opposite have the same absolute value: $|5| = |-5| = 5$.
- Absolute value is never negative. A greater absolute value means **farther from 0**.

WORKED EXAMPLE

Which is farther from 0: −9 or 6?

Step 1 $|-9| = 9$ and $|6| = 6$.

Step 2 $9 > 6$, so −9 is farther from 0.

Answer **−9**

PRACTICE

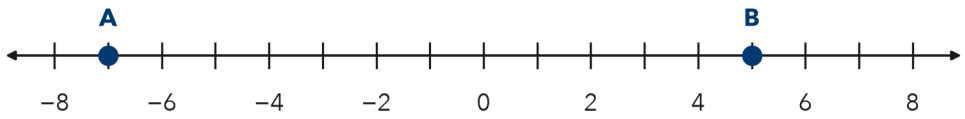
show your work · label units

1. Find each absolute value.

a. $|-14|$ = _____ **b.** $|8|$ = _____ **c.** $|0|$ = _____

d. $|-2.5|$ = _____ **e.** $|3/4|$ = _____ **f.** $|-1\ 1/2|$ = _____

2. Use the number line. Find the absolute value of each point.



a. $|A|$ = _____ **b.** $|B|$ = _____ **c.** Farther from 0: ____

3. Compare. Write <, >, or = in each blank.

a. $|-9|$ ___ $|7|$ **b.** $|-4|$ ___ $|4|$ **c.** -10 ___ $|-3|$

d. $|-6.5|$ ___ $|6.5|$ **e.** $|-12|$ ___ $|-15|$ **f.** 0 ___ $|-1|$

4. **Bank Balances.** Rosa's account balance is −$35 (she owes $35). Ben's balance is $20.

a. Find the absolute value of each balance. _____

b. Whose balance is farther from $0? _____

5. **Stretch.** List all the integers with an absolute value less than 3.

Integers _____

6. **Reasoning.** Name two different numbers that have an absolute value of 4.5. Explain how you know.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Ask someone at home: is it colder at −10 degrees or at 5 degrees? Which temperature is farther from 0?

Name _____ Date _____ Period _____

LESSON 7-3 · HOMEWORK PACKET · SHEET 2 OF 2

Absolute Value as Total Distance

Maryland Standard 6.NS.C.7c · Learning target – I can use absolute value to find the total distance between a negative and a positive reading.

REMEMBER

- **Opposite sides** of 0: **add** the absolute values.
- −3 to 5 is 3 + 5 = 8 units.
- **Same side** of 0: **subtract** the absolute values.
- −9 to −2 is 9 − 2 = 7 units.

WORKED EXAMPLE

A diver swims up from −24 feet to a boat deck at 6 feet. How far does she go?

Step 1 The numbers are on opposite sides of 0, so add.

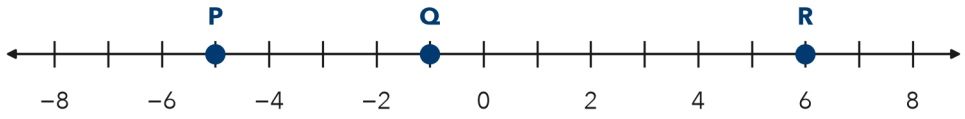
Step 2 |−24| + |6| = 24 + 6 = 30

Answer **30 feet**

PRACTICE

show your work · label units

1. Use the number line. Find each distance.



a. P to R: _____ **b.** Q to R: _____ **c.** P to Q: _____

2. Find the distance between each pair of numbers.

a. −7 and 3 _____ **b.** −12 and −4 _____ **c.** −2.5 and 4 _____

3. **Temperature Swing.** It was −8 degrees at 6 a.m. and 15 degrees at 3 p.m. How much did it rise?

Answer _____ degrees

4. **Elevator.** An elevator goes from parking level −3 up to floor 9. Street level is floor 0. How many floors does it travel?

Answer _____ floors

5. **Find the Error.** To find the distance from −9 to 5, Omar wrote 9 − 5 = 4. Explain his mistake. Find the correct distance.

_____

_____

TEST PRACTICE

choose the best answer

6. What is the distance between −13 and 6 on a number line?

A 7 **B** 19 **C** −19 **D** −7

7. A cave floor is at −60 feet. A ledge is at −22 feet. How far apart are they?

A 82 feet **B** 38 feet **C** −38 feet **D** 22 feet

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME With someone at home, find how many degrees the temperature changed today.

Name _____ Date _____ Period _____

LESSON 7-4 · HOMEWORK PACKET · SHEET 1 OF 2

Comparing Numbers on a Number Line

Maryland Standard 6.NS.C.7a · Learning target – I can compare two rational numbers using their positions on a number line.

REMEMBER

- Numbers get **greater to the right** and **less to the left**.
- Any positive number is greater than any negative number.
- −2 > −8 because −2 is farther right. **<** means is less than; **>** means is greater than.

WORKED EXAMPLE

Compare −3.5 and −1.5. Use < or >.

Step 1 −1.5 is to the right of −3.5 on the number line.

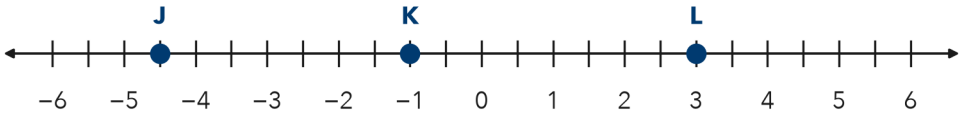
Step 2 Right means greater.

Answer **−1.5 > −3.5**

PRACTICE

show your work · label units

1. Use the number line. Write < or > in each blank.



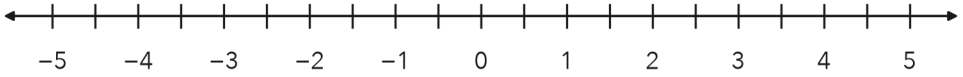
a. J ___ K **b.** L ___ K **c.** J ___ L

2. Write < or > in each blank.

a. −8 ___ −3 **b.** 0 ___ −6 **c.** −2.5 ___ −2.05

d. 4 ___ −10 **e.** −1/2 ___ −3/4 **f.** −7 ___ −7.1

3. Plot −3.5 and −0.5 on the number line. Then write a true comparison using <. _____



4. **Golf.** In golf, the lower score wins. Tanya scored −3. Malik scored −5.

a. Compare the scores using < or >. _____

b. Who won? _____

5. **Cold Days.** Monday's low was −7 degrees. Tuesday's low was −2 degrees. Which day was colder? Write a comparison using < or >.

Answer _____

6. **Reasoning.** Is −6 < |−6| true? Explain how you know.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME Ask someone at home: which is colder, −4 degrees or −9 degrees? Why?

Name _____ Date _____ Period _____

LESSON 7-4 · HOMEWORK PACKET · SHEET 2 OF 2

Ordering Integers and Rational Numbers

Maryland Standard 6.NS.C.7b · Learning target – I can order integers and rational numbers from least to greatest.

REMEMBER

- Place the numbers on a number line. **Least** is farthest left; **greatest** is farthest right.
- Change fractions to decimals to compare: $-3/4 = -0.75$.
- For negative numbers, the one farther from 0 is **less**.

WORKED EXAMPLE

Order -1.2, 0.5, -2, and $-1/2$ from least to greatest.

Step 1 Write $-1/2$ as -0.5.

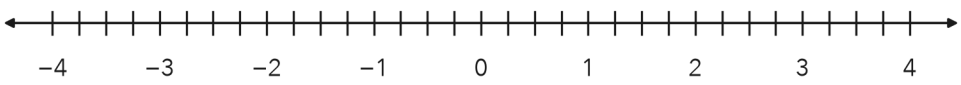
Step 2 Read the number line from left to right.

Answer **$-2, -1.2, -1/2, 0.5$**

PRACTICE

show your work · label units

1. Plot each number. Then write them in order from least to greatest: 1.5, −2.5, −3/4, 2 1/4, −3.25



Order _____

2. Order each set from least to greatest.

a. −6, 4, −9, 0 _____

b. −0.3, −3, −0.03 _____

3. Circle the greatest number in each set.

a. −5, −2, −8

b. −1.4, −1.04, −1.44

c. −2/3, −1/2, −3/4

d. 0, −0.1, −10

4. **Ocean Animals.** A shark swims at −45.5 m, a turtle at −12 m, a dolphin at −30.25 m, and a jellyfish at −8.75 m. List the animals from deepest to closest to the surface.

Answer _____

5. **Find the Error.** Leo ordered $-1/2$, -0.4, and -0.6 from least to greatest as -0.4, $-1/2$, -0.6. Explain his mistake and write the correct order.

_____

_____

TEST PRACTICE

choose the best answer

6. Which list is ordered from least to greatest?

A −5, −8, 0, 3 **B** −8, −5, 0, 3 **C** 0, −5, −8, 3 **D** 3, 0, −5, −8

7. Which number is greatest?

A −2.7 **B** −2.07 **C** −2.77 **D** −2.2

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME List the low temperatures for three cold days with someone at home. Order them from coldest to warmest.

Name _____ Date _____ Period _____

LESSON 7-5 · HOMEWORK PACKET · SHEET 1 OF 2

Plotting Points on the Coordinate Plane

Maryland Standard 6.NS.C.6c · Learning target – I can plot a point with rational coordinates and name the quadrant it lies in.

REMEMBER

- Start at the **origin** (0, 0). Move *x* units right or left, then *y* units up or down.
- Quadrant signs: I (+, +), II (−, +), III (−, −), IV (+, −).
- A point with a 0 coordinate is **on an axis**, not in a quadrant.

WORKED EXAMPLE

Plot (−3.5, 2) and name its quadrant.

Step 1 Start at the origin. Move left 3.5 units.

Step 2 Move up 2 units. Left and up is Quadrant II.

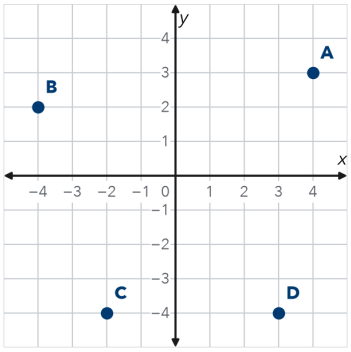
Answer **Quadrant II**

PRACTICE

show your work · label units

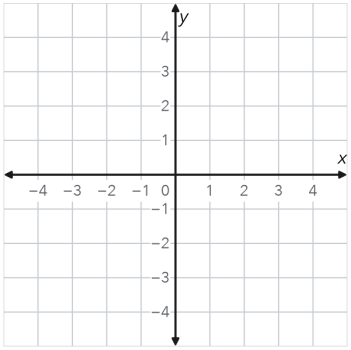
1. Write the ordered pair for each point. Name its quadrant.

Point	Ordered pair	Quadrant
A		
B		
C		
D		



2. **Town Map.** The library is at the origin. Plot and label each place: Park P(2, 4), Pool Q(−4, −1), School S(−3.5, 3), Garden G(4, −2.5).

Which place is in Quadrant III? _____ Quadrant IV? _____



3. Name the quadrant or axis for each point.

a. (−7, −2) _____ **b.** (8, −1) _____ **c.** (0, 6) _____

d. (−1.5, 4) _____ **e.** (−9, 0) _____ **f.** (2.5, −6) _____

4. **Reasoning.** Malia says (−3, 5) and (5, −3) name the same point. Is she right? Explain.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME With someone at home, name a quadrant. Take turns saying an ordered pair that lands in it.

Name _____ Date _____ Period _____

LESSON 7-5 · HOMEWORK PACKET · SHEET 2 OF 2

Reflecting Points Across Axes

Maryland Standard 6.NS.C.6b · Learning target – I can reflect a point across the x-axis or the y-axis and name the new coordinates.

REMEMBER

- **x-axis** reflection: flip the sign of *y*. (3, 4) becomes (3, −4).
- **y-axis** reflection: flip the sign of *x*. (3, 4) becomes (−3, 4).
- Across **both** axes, both signs flip.

WORKED EXAMPLE

Reflect (−2, 5) across the x-axis.

Step 1 Keep x = −2.

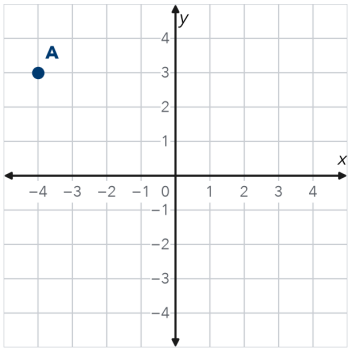
Step 2 Change the sign of y: 5 becomes −5.

Answer (−2, −5)

PRACTICE

show your work · label units

1. Point A is at (−4, 3). Plot point B, the reflection of A across the x-axis. Plot point C, the reflection of A across the y-axis.



a. B = _____

b. C = _____

2. Write the new point after each reflection.

a. (−6, −2) across the y-axis _____

b. (−4, 7) across both axes _____

3. Park Map. A bench is the reflection of a bus stop at (7, −2.5) across the x-axis. Where is the bench?

Answer _____

4. Stretch. Point K was reflected across the x-axis. The new point is (−6, −5). Where was point K?

K _____

5. Find the Error. Sam reflected (−3, −8) across the y-axis and got (−3, 8). Explain his mistake. Fix it.

_____

_____

TEST PRACTICE

choose the best answer

6. Point M(−5, 2) is reflected across the y-axis. What is the new point?

A (−5, −2) **B** (5, 2) **C** (5, −2) **D** (2, −5)

7. The points (6, −1) and (6, 1) are reflections of each other across –

A the x-axis **B** the y-axis **C** both axes **D** neither axis

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 7-6 · HOMEWORK PACKET · SHEET 1 OF 2

Distance Between Points on a Grid

Maryland Standard 6.NS.C.8 · Learning target – I can find the distance between two points that share a coordinate.

REMEMBER

- **Same x-coordinate**: the points are on a vertical line. Use the y-coordinates.
- **Same y-coordinate**: the points are on a horizontal line. Use the x-coordinates.
- Opposite signs: **add** the absolute values. Same signs: **subtract** them.

WORKED EXAMPLE

Find the distance from (3, −4) to (3, 5).

Step 1 Same x, so use the y-coordinates −4 and 5.

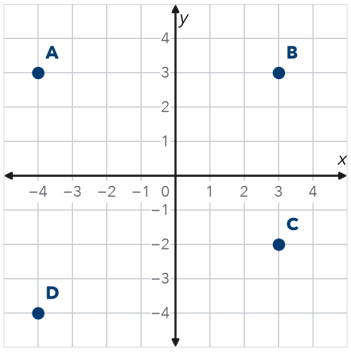
Step 2 Opposite signs, so add: 4 + 5 = 9.

Answer 9 units

PRACTICE

show your work · label units

1. Use the grid. Find each distance.



a. A to B _____ units

b. B to C _____ units

c. A to D _____ units

2. Find the distance between each pair of points.

a. (5, 6) and (5, −2) ____

b. (−7, 1) and (−2, 1) ____

c. (−3, −4) and (6, −4) ____

d. (0, −8) and (0, 3) ____

e. (−9, −2) and (−9, −7) ____

f. (2.5, 3) and (−4, 3) ____

g. (−1, −6) and (−1, 4) ____

h. (−8, 5) and (−3.5, 5) ____

3. City Blocks. Kim walks straight from (−6, −3) to (−6, 5). Each unit is 1 block. How far does she walk?

Answer _____ blocks

4. Missing Point. Point P is at (2, −3). Point Q is 6 units to the left of P. Name point Q.

Answer _____

5. Find the Error. Eli says the distance from (1, −6) to (1, −2) is 8 because 6 + 2 = 8. Explain his mistake and find the correct distance.

_____

_____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME With someone at home, count the blocks between two places on one street.

Name _____ Date _____ Period _____

LESSON 7-6 · HOMEWORK PACKET · SHEET 2 OF 2

Comparing Distances on the Plane

Maryland Standard 6.NS.C.8 · Learning target – I can decide whether to add or subtract to find a distance, then compare two distances.

REMEMBER

- Find **each** distance first. Then compare.
- Different signs: **add**. Same sign: **subtract**.
- A distance is never negative.

WORKED EXAMPLE

Which is longer: (−2, 4) to (5, 4), or (1, −3) to (1, 5)?

Step 1 First: same y, use x: 2 + 5 = 7 units.

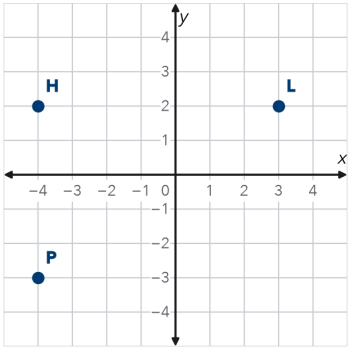
Step 2 Second: same x, use y: 3 + 5 = 8 units. 8 > 7.

Answer the second one

PRACTICE

show your work · label units

1. **Neighborhood.** Each unit is 1 block. Which is closer to Home: the Library or the Park?



a. H to L _____ blocks

b. H to P _____ blocks

c. Which is closer? By how many blocks? _____

2. Find each distance.

a. (−8, 1) to (−3, 1) ____

b. (4, −6) to (4, 7) ____

c. (−6, −7) to (−6, −1) ____

d. (−2.5, 3) to (4.5, 3) ____

3. **Runners.** Ana runs from (−5, −1) to (6, −1). Jay runs from (2, 4) to (2, −6). Who runs farther, and by how many units?

Answer _____

4. **Reasoning.** For (−3, 7) to (−3, −2), do you add or subtract? Explain, then find the distance.

_____

_____

TEST PRACTICE

choose the best answer

5. Segment JK runs from (−4, 2) to (6, 2). Segment MN runs from (1, −3) to (1, 5). Which is longer?

A JK, by 2 units **B** MN, by 2 units **C** neither **D** JK, by 8 units

6. Point A is at (−2, −5). Point B is at (−2, 3). What is the distance from A to B?

A 2 units **B** 3 units **C** 8 units **D** −8 units

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

AT HOME With someone at home, pick two places on one street. Which is closer to your home? By how many blocks?

Name _____ Date _____ Period _____

LESSON 7-7 · HOMEWORK PACKET · SHEET 1 OF 2

Polygons and Perimeter on the Plane

Maryland Standard 6.G.A.3 · Learning target – I can find the perimeter and area of a polygon drawn on the coordinate plane.

REMEMBER

- Plot the vertices in order. Connect them to draw the polygon.
- Find each horizontal or vertical side from the coordinates.
- **Perimeter** = sum of all sides. **Area** of a rectangle = length × width.

WORKED EXAMPLE

Find the perimeter and area of the rectangle with vertices (−3, 2), (4, 2), (4, −1), (−3, −1).

Step 1 Top: 3 + 4 = 7 units. Side: 2 + 1 = 3 units.

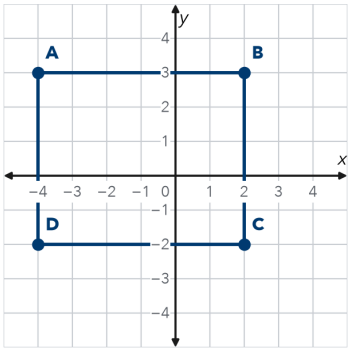
Step 2 P = 7 + 3 + 7 + 3 = 20 units. A = 7 × 3 = 21 square units.

Answer **P = 20 units, A = 21 square units**

PRACTICE

show your work · label units

1. Use the rectangle on the grid.



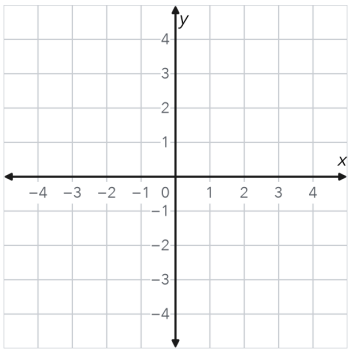
a. Length of AB _____ units

b. Length of BC _____ units

c. Perimeter _____ units

d. Area _____ sq. units

2. Plot A(−3, −2), B(4, −2), and C(−3, 4). Connect them to make a right triangle.



a. Base AB _____ units

b. Height AC _____ units

c. Area _____ sq. units

3. **Garden Fence.** A garden has corners at (−5, 3), (6, 3), (6, −4), and (−5, −4). Each unit is 1 meter. How much fence goes around it?

Answer _____ m

4. **Square.** A square has vertices (−3, 1), (2, 1), (2, −4), and (−3, −4). Find its perimeter.

Answer _____ units

5. **Reasoning.** Three corners of a rectangle are (−2, 5), (3, 5), and (3, −1). Name the fourth corner.

Answer _____

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____

Name _____ Date _____ Period _____

LESSON 7-7 · HOMEWORK PACKET · SHEET 2 OF 2

Designing Polygons with Scale

Maryland Standard 6.G.A.3 · Learning target – I can use a scale to find a missing dimension of a figure on the coordinate plane.

REMEMBER

- A **scale** tells what 1 grid unit stands for, like 1 unit = 5 ft.
- Real length = grid units × scale.
- Missing side = area ÷ known side.

WORKED EXAMPLE

1 unit = 5 ft. A rectangle's sides run from (−2, 3) to (4, 3) and from (4, 3) to (4, −1). Find its real size.

Step 1 Top: 2 + 4 = 6 units. 6 × 5 = 30 ft.

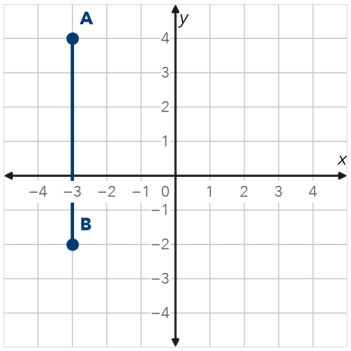
Step 2 Side: 3 + 1 = 4 units. 4 × 5 = 20 ft.

Answer **30 ft by 20 ft**

PRACTICE

show your work · label units

1. **Court Plan.** On this plan, 1 unit = 5 ft. Side AB of a court is drawn. The court must cover 1,200 ft².



a. AB in grid units _____ units

b. AB in feet _____ ft

c. Other side in feet _____ ft

d. Other side in grid units _____ units

2. On a map, 1 grid unit = 4 meters.

a. 7 units = ____ m

b. 36 m = ____ units

3. **Patio.** A patio on a plan is 7 units by 5 units. 1 unit = 2 ft. Find the real area.

Answer _____ ft²

4. **Bedroom.** On a plan, 1 unit = 3 ft. A room has corners at (−2, 4), (2, 4), (2, −1), and (−2, −1). Find its real perimeter.

Answer _____ ft

5. **Find the Error.** If 1 unit = 3 ft, Lily says (−4, 1) to (5, 1) is 3 ft. Explain her error. Fix it.

_____

_____

TEST PRACTICE

choose the best answer

6. A plan uses 1 unit = 6 m. A side is 5 units long. How long is the real side?

A 11 m **B** 30 m **C** 1 m **D** 56 m

7. A rectangle has an area of 480 ft². One side is 24 ft. How long is the other side?

A 20 ft **B** 456 ft **C** 40 ft **D** 504 ft

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #____