

OAKLAND CUSD #5

HS ALGEBRA

APRIL 27-MAY 1, 2020

NICHOLE EPPERSON

Week of April 27- May 1, 2020
HS Algebra
Mrs. Epperson

Hi! My heart is truly missing you, I hope you are staying well! If you are able, please connect with us through our google classroom. We have weekly calls on Thursdays if you are able to join us. They are NOT required, but it's nice to catch up and see your faces. The time we meet on Thursdays is from 2:15-2:45, you can find the link to connect with us in your student email (same email and password you use to log into chromebooks; remember, the ending of your email address is @oakland5.org)

You may use your math folder to help you. You have to complete 2 worksheets, but may complete all 5.
I am available at nichole.epperson@oakland5.org or 708-517-0534 for any questions. You may call or text.

All worksheets have the appropriate grade level/subject at the top.

Class	Choice 1	Choice 2	Choice 3	Choice 4	Choice 5
HS Algebra	2-5	2-6	2-8	6-7	7-3



2-5 Additional Practice

Week of 4/27-5/1

1. **Leveled Practice** The graph and the table show the total cost of the number of pairs of jeans purchased at two different stores. Which store charges the higher cost for a pair of jeans?

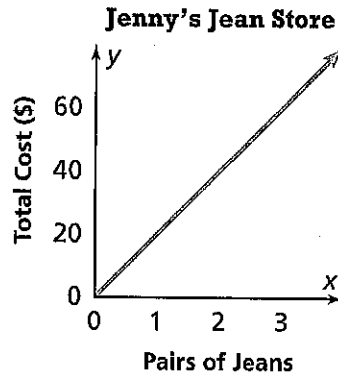
Find the unit rate (constant of proportionality) for Jenny's Jean Store.

$$\frac{\text{cost}}{\text{pairs}} = \frac{\quad}{\quad} = \$ \quad \text{ per pair}$$

Find the unit rate (constant of proportionality) for Jean Warehouse.

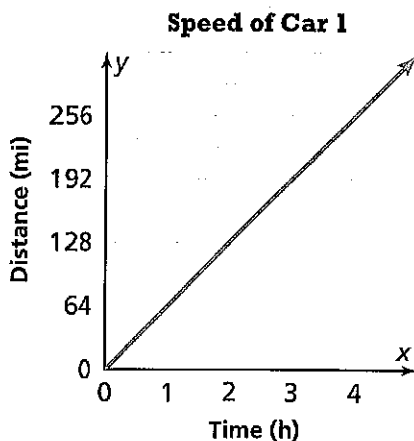
$$\frac{\text{cost}}{\text{pairs}} = \frac{\quad}{\quad} = \$ \quad \text{ per pair}$$

So _____ charges the higher rate.

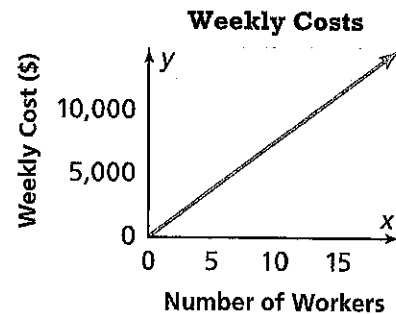


Jean Warehouse				
Pairs of Jeans	2	3	4	5
Total Cost (\$)	36	54	72	90

2. The graph shows the average speed of Car 1 which is traveling on a highway. The equation $y = 55x$ represents the average speed of Car 2, where y is the distance in miles and x is the time in hours. Which car is traveling at the greater speed?



3. The graph shows a proportional relationship between the number of workers and weekly cost, in dollars, for a company in its first year. The following year, the company spends \$7,200 per 12 employees. Did the rate increase or decrease the following year?

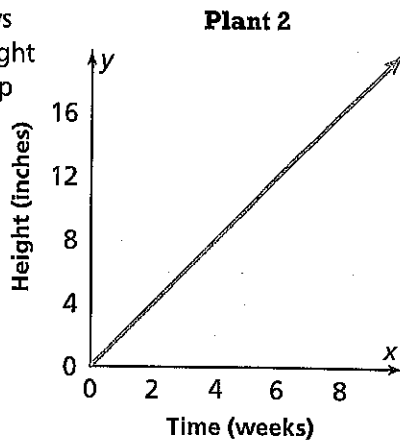


Algebra- Epperson, week of 4/27-5/1

4. Corey compares the heights of two plants to see which plant grows more per week. The table shows the relationship between the height and number of weeks for Plant 1. The graph shows the relationship between the height and number of weeks for Plant 2.

Which plant grows at the faster rate?

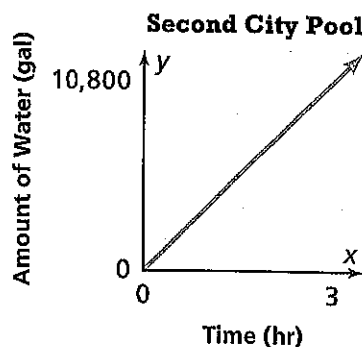
Plant 1				
Weeks	2	3	4	5
Height (inches)	8	12	16	20



5. **Higher Order Thinking** At the beginning of summer, a maintenance crew refills a swimming pool at a city park. The relationship between the time in hours to fill the pool and the amount of water in the pool is proportional. After 4 hours, the pool holds 5,200 gallons of water.

a. How could you graph this relationship?

- b. The same crew refills a second pool as represented by the graph shown. Is the second pool filled at a faster or a slower rate than the first pool? Explain.



✓ Assessment Practice

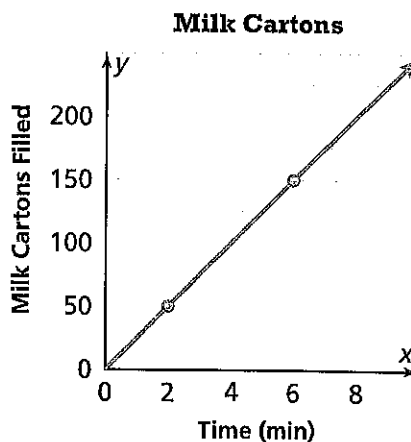
6. The graph shows the relationship between the time in minutes and the number of milk cartons that Machine 1 can fill. The equation $y = 22x$ describes the rate at which Machine 2 can fill cartons where x is the number of minutes and y is the number of cartons filled.

PART A

What is the unit rate for each machine?

PART B

Which machine can fill cartons at a faster rate?
How much faster?





PRACTICE



TUTORIAL

2-6 Additional Practice

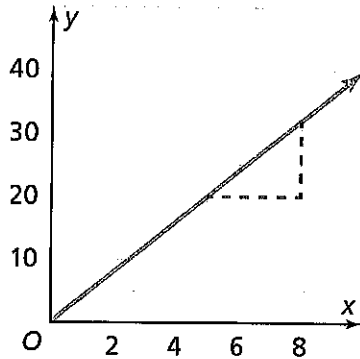
Week of 4/27-5/1

Leveled Practice In 1 and 2, find the slope of each line.

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1. Find the slope of the line.

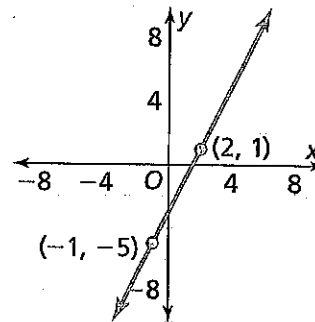


$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

$$= \frac{30}{8} =$$

The slope is _____.

2. Find the slope of the line. Use the two points shown.



$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

$$= \frac{1 - (-5)}{2 - (-1)}$$

$$= \frac{6}{3} =$$

$$= 2$$

The slope is _____.

For 3 and 4, find the slope of the line that passes through the given points.

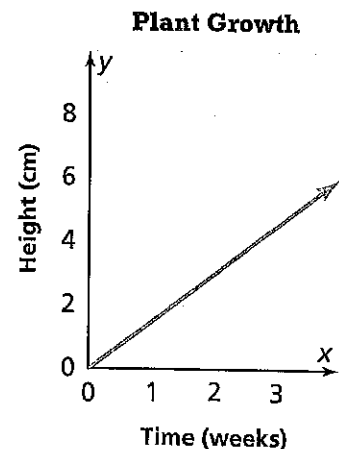
3. (0, 10) and (24, 6)

4. (0, 6) and (20, 14)

5. The graph shows the number of centimeters a particular plant grows over time.

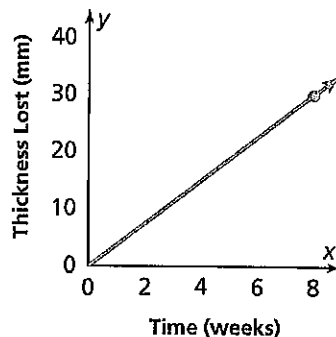
a. What is the slope of the line?

b. Reasoning What does the slope mean?



6. A machinist measures the thickness of a grinding pad every week. The graph shows how many millimeters the grinding pad has worn down.

Grinding Pad Thickness



a. What is the slope of the line?

b. Reasoning What does the slope mean?

7. Higher Order Thinking You use a garden hose to fill a circular wading pool that is 83.6 cm deep. You measure the depth of the water in the pool every 2 minutes. The table shows the data.

Filling a Wading Pool

Time (minutes)	Depth of Water (cm)
0	0
2	4.4
4	8.8
6	13.2
8	17.6
10	22.0

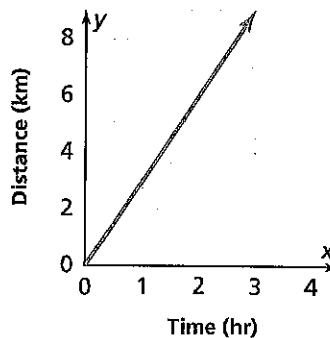
a. What is the slope of the line that represents the change in the depth of the water?

b. What does this slope mean?

c. How many minutes will it take to fill the pool?

8. The graph shows the number of kilometers Gina swims. What is the slope of the line and what does it mean?

Distance Swimming



Assessment Practice

9. Donald graphs the distance he walks over time. The graph passes through the points (3, 12) and (4, 16).

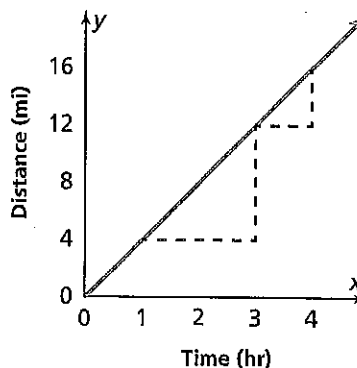
PART A

Find the slope of the line that passes through these points.

PART B

Is the slope between (1, 4) and (3, 12) the same as the slope between (3, 12) and (4, 16)? Explain.

Distance Walked





PRACTICE



TUTORIAL

2-8 Additional Practice

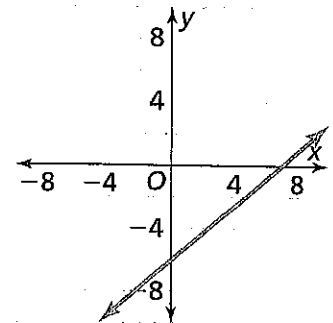
Week of 4/27-5/1

1. **Leveled Practice** Find the y-intercept for the line.

The y-intercept is the point where the graph crosses the _____ -axis.

The line crosses the y-axis at (_____ , _____).

So, the y-intercept is _____.



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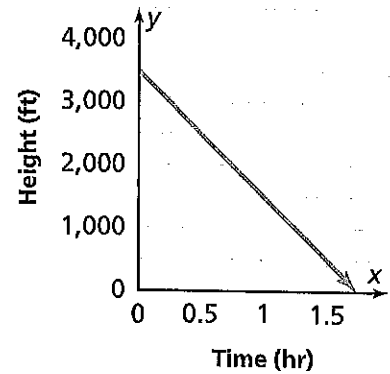


2. The line models the height of a glider y , in feet, over x hours.

a. Find the y-intercept of the graph.

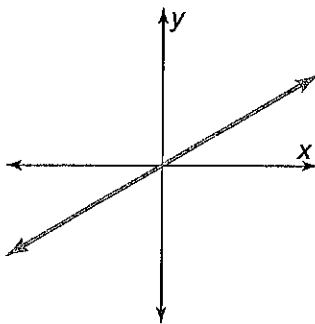
b. What does the y-intercept represent?

Height of Glider

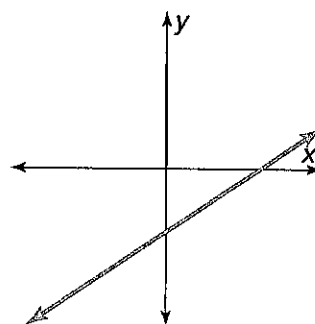


3. Which graph represents a proportional relationship? Explain.

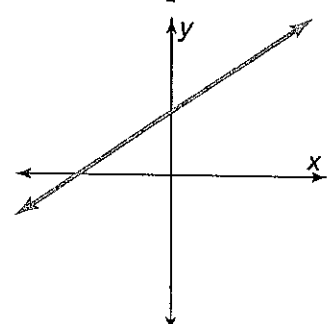
Graph A



Graph B



Graph C

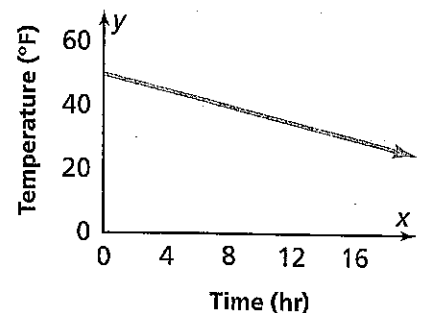


4. The line models the temperature starting at noon on an autumn day.

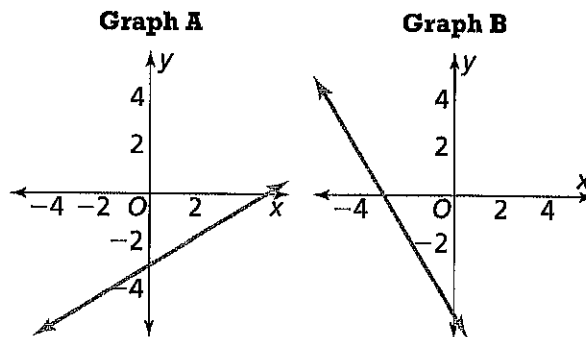
a. Find the y-intercept of the function.

b. What does the y-intercept represent?

Temperature on Autumn Day



5. Which graph has a y -intercept of -5 ? Explain.

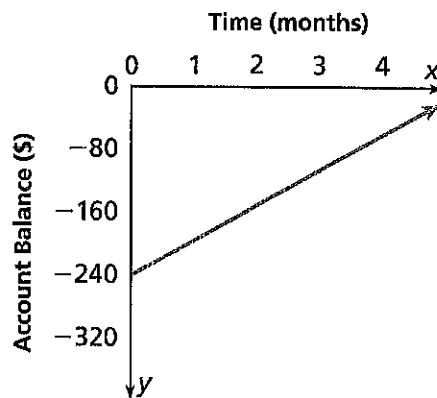


6. **Higher Order Thinking** Tasha incorrectly draws this graph to represent the balance in her savings account over time.

a. What is the y -intercept of the graph and what does it represent in the situation?

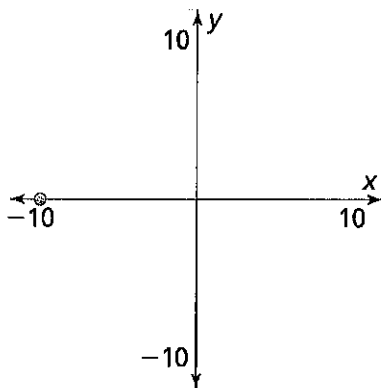
b. Does the y -intercept make sense in this situation? Explain.

c. Explain Tasha's possible error.



Assessment Practice

7. Draw a line through the point such that the value of the y -intercept is the same as the value of the x -intercept.



8. Which statement describes the y -intercept of the graph of a proportional relationship?

- Ⓐ It is equal to the x -intercept of the line.
- Ⓑ It is greater than the x -intercept of the line.
- Ⓒ The line intersects the y -axis of the graph at the origin.
- Ⓓ The line intersects the y -axis of the graph above the origin.

6-7 Additional Practice

Week of 4/27-5/1



PRACTICE



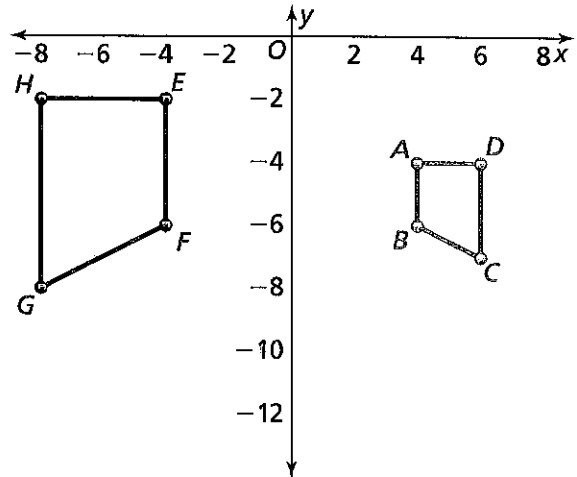
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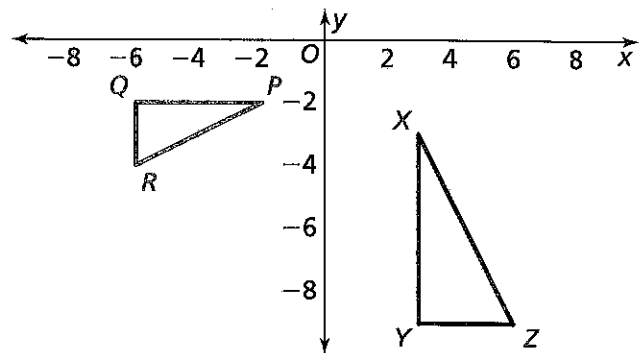
1. Leveled Practice $ABCD$ and $EFGH$ are quadrilaterals. Given $ABCD \sim EFGH$, describe a sequence of transformations that maps $ABCD$ to $EFGH$

- Reflection across the _____
- Translation _____ unit(s) right
and _____ unit(s) up
- Dilation with center $(0, 0)$ and scale factor _____

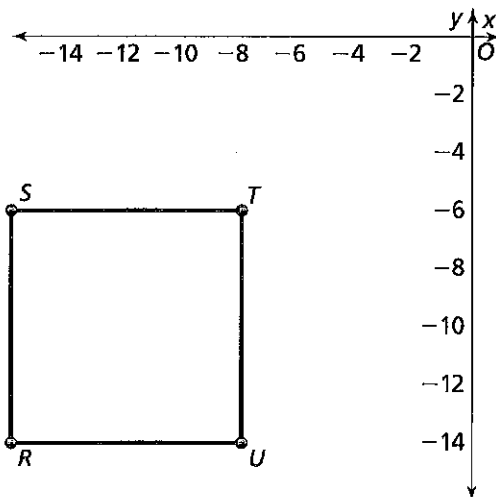


2. a. If $\triangle PQR$ were similar to $\triangle XYZ$, what angle would correspond to $\angle Q$?

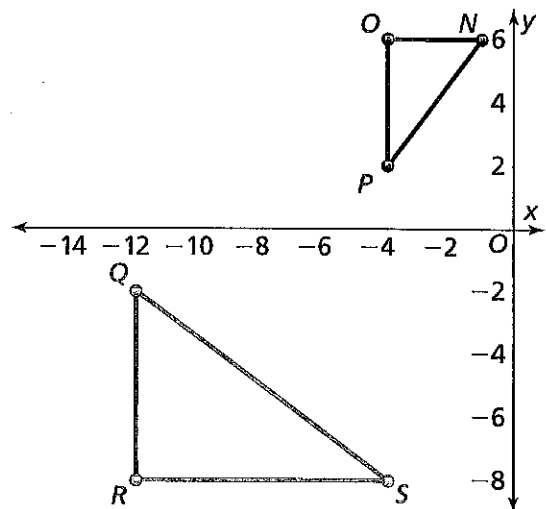
b. Are the triangles similar? Explain.



3. Quadrilateral $RSTU$ is translated 6 units right and 4 units up, and then dilated with center of dilation $(0, 0)$ and scale factor $\frac{1}{2}$. Graph the resulting similar quadrilateral $VXYZ$.



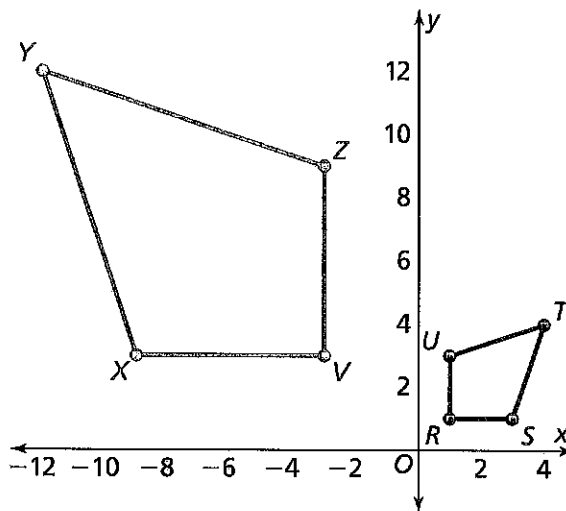
4. Describe a sequence of transformations that shows that $\triangle NOP$ is similar to $\triangle QRS$.



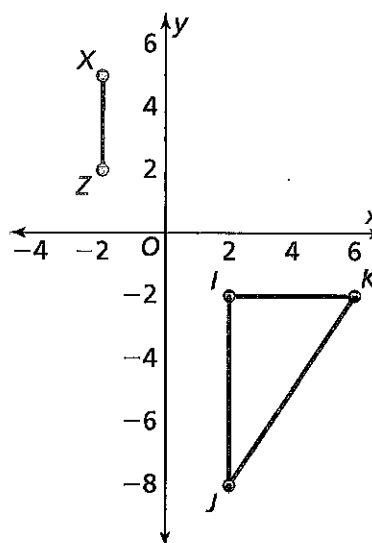
Algebra- Epperson, week of 4/27-5/1

5. Quadrilateral $RSTU \sim$ quadrilateral $VXYZ$.

- a. Which angle corresponds to $\angle S$?
- b. Describe a sequence of transformations that shows that quadrilateral $RSTU$ is similar to quadrilateral $VXYZ$.

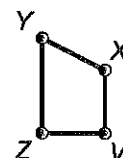
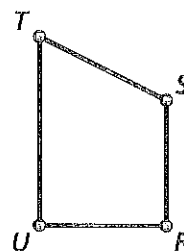


6. **Higher Order Thinking** Given $\triangle JKL \sim \triangle XYZ$. Find two possible coordinates for missing point Y . For each coordinate chosen, describe a sequence of transformations that could map $\triangle JKL$ to $\triangle XYZ$.



Assessment Practice

7. Are quadrilaterals $RSTU$ and $VXYZ$ similar? Explain.





7-3 Additional Practice

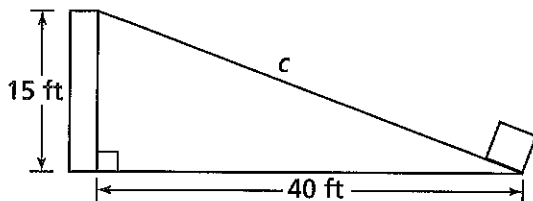
Week of 4/27-5/1

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Leveled Practice In 1 and 2, use the Pythagorean Theorem to solve.

1. A shipping company uses an inclined conveyor belt to load and unload packages. The dock is 15 feet above the ground. The base of the conveyor belt is 40 feet from the dock. What is the length of the conveyor belt? Round to the nearest tenth of a foot.



$$a^2 + b^2 = c^2$$

$$15^2 + 40^2 = c^2$$

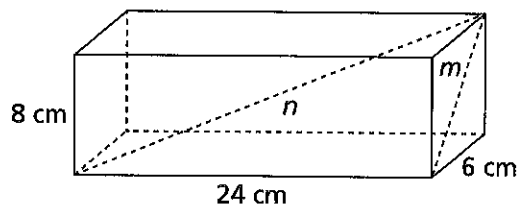
$$225 + 1600 = c^2$$

$$1825 = c^2$$

$$c \approx 42.7$$

The length of the conveyor belt is about 42.7 feet.

2. Find the missing lengths in the rectangular prism.



$$a^2 + b^2 = c^2$$

$$8^2 + 24^2 = n^2$$

$$64 + 576 = n^2$$

$$640 = n^2$$

$$a^2 + b^2 = c^2$$

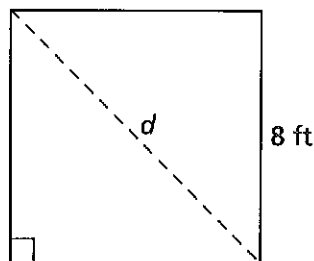
$$2^2 + 2^2 = m^2$$

$$4 + 4 = m^2$$

$$8 = m^2$$

$$m = 2.8$$

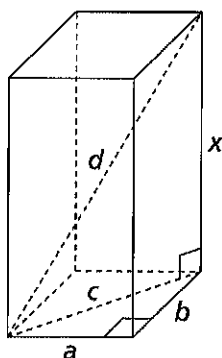
3. A square table in the cafeteria has the dimensions shown. What is the length of the diagonal of the table? Round to the nearest hundredth of a foot.



4. **Reasoning** What is the measurement of the longest line segment in a right rectangular prism that is 26 inches long, 2 inches wide, and 2 inches tall? Round to the nearest tenth of an inch.

Algebra- Epperson, week of 4/27-5/1

5. **Make Use of Structure** Li needs to find the height of the rectangular prism, x . He knows that $d = 15$ mm. If he also knows the measure of line a , can he find the measure of x ? Explain.

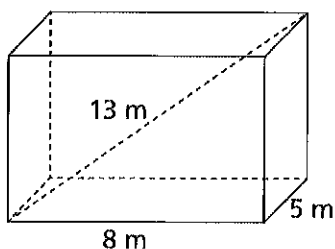


6. Sasha is building a tree house. The walls are 6.5 feet tall and she is using a brace to hold up the wall while she nails it to the floor. The brace is 8 feet long and she has positioned it 5 feet from the wall. Does her wall meet the floor at a right angle? Explain.

7. **Higher Order Thinking** An eight-sided game piece is shaped like two identical square pyramids attached at their bases. The perimeters of the square bases are 80 millimeters, and the slant height of each pyramid is 17 millimeters. What is the length of the game piece? Round to the nearest tenth of a millimeter.

Assessment Practice

8. What are the dimensions, to the nearest meter, of the prism?



- Ⓐ $5 \text{ m} \times 8 \text{ m} \times 8 \text{ m}$
 Ⓑ $5 \text{ m} \times 8 \text{ m} \times 9 \text{ m}$
 Ⓒ $5 \text{ m} \times 8 \text{ m} \times 10 \text{ m}$
 Ⓓ $5 \text{ m} \times 8 \text{ m} \times 11 \text{ m}$

9. Carlos is making a wood picture frame. The picture frame is 11 inches by 14 inches. After nailing the frame together, Carlos measures the diagonal. If the diagonal is 19 inches long, what is true about the frame?

- Ⓐ The frame has 90° corners.
 Ⓑ The frame is a triangle.
 Ⓒ The frame is a rectangle.
 Ⓓ The frame is not a rectangle.