

Name: _____

Math 8/Science Checklist: Q4 W3-W4 April 23rd- May 4th

Big Ideas:

<p>Math:</p> <ul style="list-style-type: none"> o Dilations o Pythagorean theorem with 3D figures 	<p>Science:</p> <ul style="list-style-type: none"> • Food Chains and Food Webs • Ecological Pyramids
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Upcoming Dates:

<u>Week 1</u>	<u>Week 2</u>
<ul style="list-style-type: none"> <input type="checkbox"/> 4/23: MAP ELA <input type="checkbox"/> 4/25: MAP Math 	<ul style="list-style-type: none"> <input type="checkbox"/> 4/30: Science Assessment <input type="checkbox"/> 5/1: 7th/8th split AND study guide due <input type="checkbox"/> 5/2 - 5/4: Field study

Shelfwork: SHOW ALL WORK. Explore work is to be checked against the control and then marked complete. Complete individually unless noted with a "G"

Lesson	Explore	Expand	Extend
<ul style="list-style-type: none"> <input type="checkbox"/> More with dilations and pythagorean theorem <input type="checkbox"/> #1 Lesson check in 4/24 	<ul style="list-style-type: none"> <input type="checkbox"/> Exploring dilations interactive (record) (https://goo.gl/g2RcnV) (___✓, M, 0) <input type="checkbox"/> 3D Pythagorean theorem interactive (record 5 different problems) (https://goo.gl/2d3Jvh) (___✓, M, 0) 	<ul style="list-style-type: none"> <input type="checkbox"/> Geometry Study guide (___%) 	<ul style="list-style-type: none"> <input type="checkbox"/> Create AND teach a green product card (use Extend rubric) (___%) <input type="checkbox"/> Extend from previous checklist (___%)
Monday's work plan: (Add missing works from last checklist)		Tuesday's work plan:	
Time Estimate:		Time Estimate:	
<ul style="list-style-type: none"> <input type="checkbox"/> #2 Food chains and webs Lesson Check-In 4/26 	<ul style="list-style-type: none"> <input type="checkbox"/> Food Chains and Webs Task Cards (choose 3) (___✓, M, 0) 	<ul style="list-style-type: none"> <input type="checkbox"/> Food Webs/Chains Analysis (master 1)(___%) <input type="checkbox"/> Study guide corrections (___%) 	<ul style="list-style-type: none"> <input type="checkbox"/> Biogeochemical Cycles Webquest (___%) <input type="checkbox"/> Choice Extension Proposal (___%)
Wednesday's work plan:		Thursday's work plan:	
Time Estimate:		Time Estimate:	
<ul style="list-style-type: none"> <input type="checkbox"/> Ecological pyramids <input type="checkbox"/> #3 Lesson Check-in 4/27 	<ul style="list-style-type: none"> <input type="checkbox"/> Ecological Pyramid Creation (___✓, M, 0) 	<ul style="list-style-type: none"> <input type="checkbox"/> Ecological Pyramid Analysis (master 2) (___%) <input type="checkbox"/> Study guide corrections (___%) 	<ul style="list-style-type: none"> <input type="checkbox"/> Biogeochemical Cycles Webquest (___%) <input type="checkbox"/> Choice Extension Proposal (___%)
Friday's work plan:		Fri/Monday's work plan:	
Time Estimate:		Time Estimate:	

Homework: (All HW assignments are to be done independently and are due the next day unless noted):

- Monday 4/23: **Dilations on the coordinate plane AND Pythagorean theorem and 3-D figures** video on EdPuzzle with guided notes
- Tuesday 4/24: **Drink water, Eat a good dinner, get to sleep early have a nice high protein breakfast before the Math MAP test.**
- Wednesday 4/25: **Food Chains food webs** science video on EdPuzzle with graphic organizer
- Thursday 4/26: **Ecological pyramids** science video on EdPuzzle with graphic organizer
- Friday 4/27: Review for science test!
- Monday 4/30: Finish missing works! And math study guide!
- Tuesday 5/1: Prepare for trip. **PACK A LUNCH!**
- Wednesday 5/2: Enjoy the trip!
- Thursday 5/3: Enjoy the trip!
- Friday 5/4: Enjoy the trip! Have a restful weekend!

Lesson Requests:

- _____
- _____

Notes and formulas:

Name _____

Community _____

Dilations on the coordinate plane

Dilation = _____

Enlargement: _____

Draw and example of enlargement

Reduction: _____

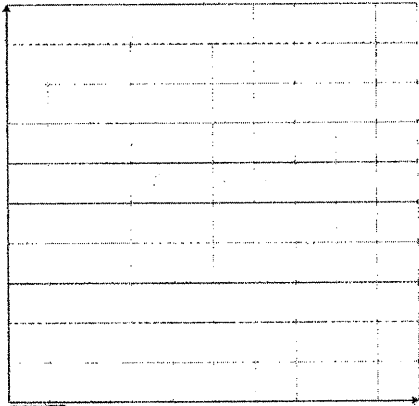
Draw and example of enlargement

Example 1:

Use scale factor $k =$ _____

For points $A(_, _), B(_, _), (_, _)$ in a dilation

Multiply the scale factor by _____ and _____-coordinates in all points.

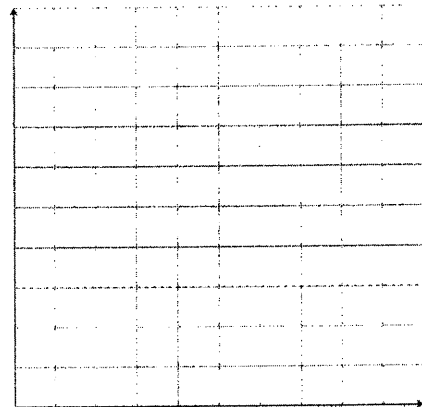


Example 2:

Use scale factor $k =$ _____

For points $A(_, _), B(_, _), (_, _)$ in a dilation

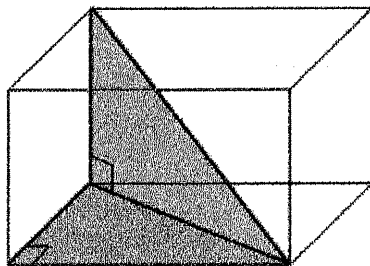
Multiply the scale factor by _____ and _____-coordinates in all points.



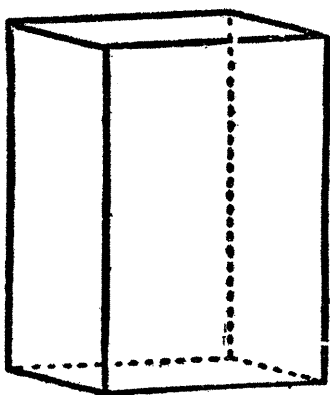
Name _____

Community _____

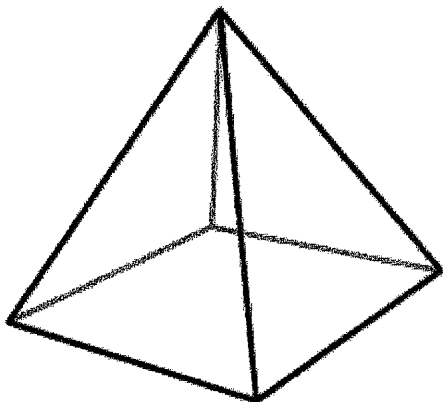
Pythagorean theorem and 3D figure notes

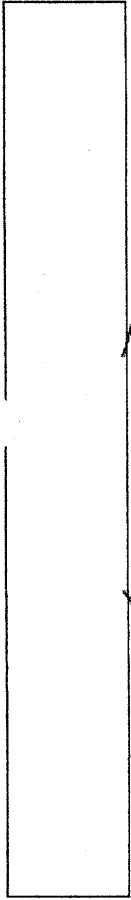


1. Find the length of the longest rod that could fit in the figure below.



2. Find the height of the pyramid if the lengths of the sides of the triangles are 29cm, 29cm, and 40cm.





Ecosystem Interactions:

- 1.
- 2.
- 3.

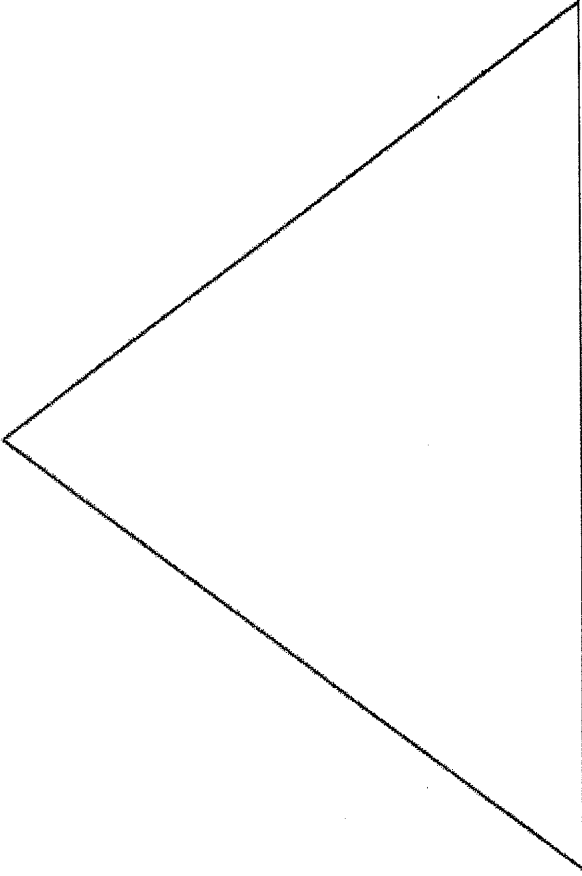
Energy Flow in an Ecosystem:

- 1.
- 2.
- 3.

Stable Ecosystems:

- 1.
- 2.
- 3.

Organisms in each trophic level:



Niche:

Ecological Pyramids

Ecological Pyramids:

- 1.
- 2.

Number Pyramids:

- 1.
- 2.

Biomass Pyramids:

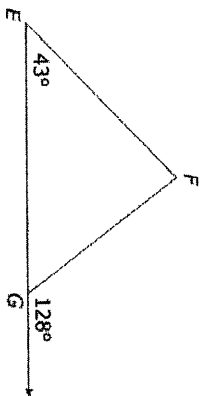
- 1.
- 2.
- 3.

Energy Pyramids:

- 1.
- 2.
- 3.
- 4.

Student:
 Class:
 Date:

1 Triangle EFG is shown below.



What is the measure of $\angle EFG$?

- A. 52°
- B. 85°
- C. 90°
- D. 137°

2 Which term **BEST** describes the transformation from figure A to figure B?



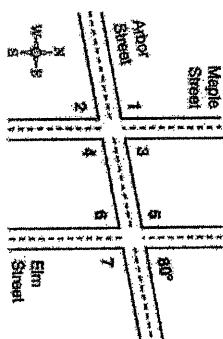
Figure A



Figure B

- A. rotation
- B. reflection
- C. translation
- D. dilation

3 Maple Street and Elm Street are parallel to each other and both intersect Arbor Street.



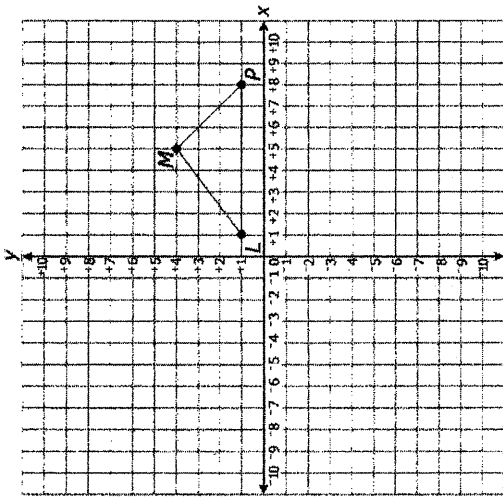
Which statement must be true?

- A. $m\angle 1 = 80^\circ$
- B. $m\angle 3 = m\angle 7$
- C. $m\angle 2 = 80^\circ$
- D. $m\angle 7 = m\angle 6$

4 Triangle ABC is rotated 95° and then translated 3 units to the left to form triangle DEF . Which statement about the triangles **must** be true?

- A. Triangle DEF will be larger than triangle ABC .
- B. Triangle DEF will be congruent to triangle ABC .
- C. Triangle DEF will have an angle that is equal to 95° .
- D. Triangle DEF will be similar, but not congruent, to triangle ABC .

5. Triangle MLP will be rotated 180° clockwise about the origin.



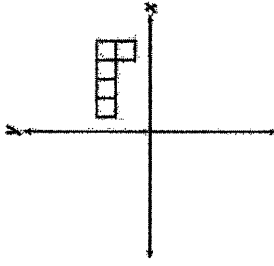
What will be the coordinates of M' ?

- A. $(-5, -4)$
- B. $(-5, 4)$
- C. $(-4, -5)$
- D. $(4, -5)$

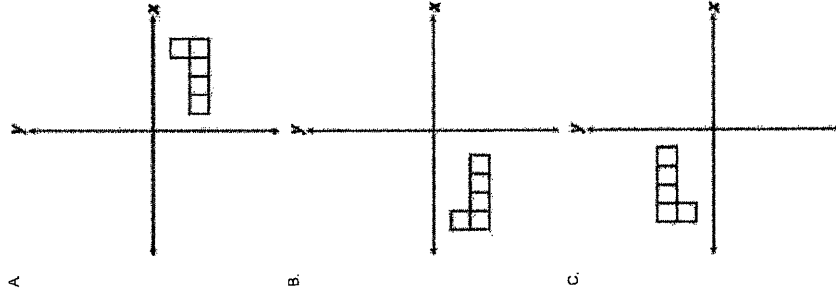
6. The image of Rectangle $PQRS$ reflected across the y -axis is Rectangle $P'Q'R'S'$. If the coordinates of the rectangle are $P(-10, 3)$, $Q(-6, 1)$, $R(-2, 6)$, $S(-6, 8)$, what will be the coordinates of P' ?

- A. $(10, 3)$
- B. $(3, 10)$
- C. $(3, 10)$
- D. $(10, 3)$

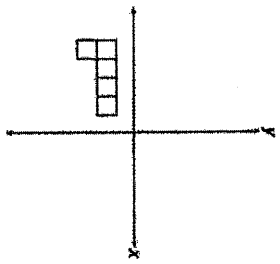
7. The figure below will be reflected about the x -axis and then reflected about the y -axis.



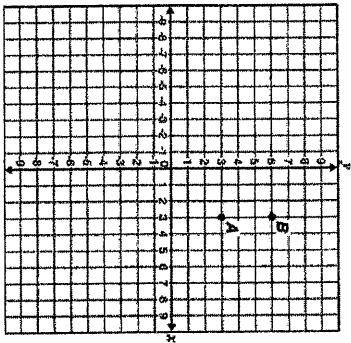
Which of the following figures demonstrates the position of the figure after the transformations?



0



8. Points $A(3, 3)$ and $B(3, 6)$ are two vertices of rectangle $ABCD$. The rectangle is dilated by a scale factor of 2, forming Rectangle $A'B'C'D'$.



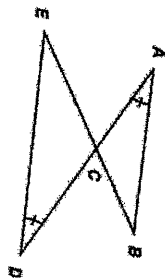
How does the perimeter of rectangle $A'B'C'D'$ compare to the perimeter of rectangle $ABCD$?

- A. It is the same.
- B. It is half as much.
- C. It is twice as much.
- D. It is four times as much.

9. The measures of the angles of a triangle are 50° , 35° , and 95° . What is the measure of the largest exterior angle of the triangle?

- A. 85°
- B. 130°
- C. 145°
- D. 150°

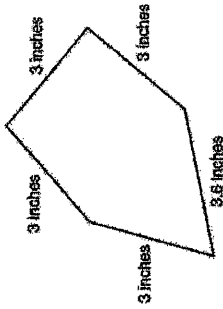
10. Triangles ABC and DEC are shown.



Given \overline{AB} is parallel to \overline{DE} , which statement about $\triangle ABC$ and $\triangle DEC$ is true?

- A. $m\angle DAB = m\angle DEB$
- B. $m\angle ABE = m\angle DEB$
- C. $\overline{AB} = \overline{DE}$
- D. $\overline{AC} = \overline{DC}$

11 Which figure is similar to the one shown?



- A. 1 in., 1 in., 1 in., 1 in., 1 in.
- B. 1 in., 1 in., 1 in., 1 in., 1 in.
- C. 1.2 in., 1.2 in., 1.4 in., 1.2 in., 1.2 in.
- D. 2.6 in., 2 in., 2 in., 2 in.

12 Sharon solved for the value of x in the triangle below.



She said that $x = 70$. Which of the following statements BEST justifies Sharon's answer?

- A. An acute triangle has three acute angles.
- B. An obtuse angle is an angle whose measure is between 90° and 180° .
- C. The measure of an exterior angle of a triangle is greater than the measure of either of its remote interior angles.
- D. The measure of the exterior angle of a triangle equals the sum of the measures of its two remote interior angles.

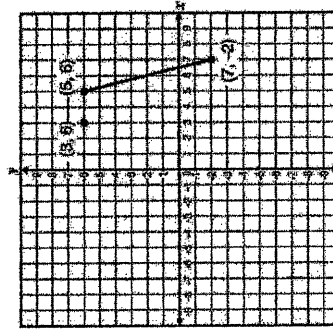
13 Angle P in Triangle PQR has the same measure as Angle S in Triangle STU . Which other condition is necessary to prove that these triangles are similar?

- A. Side PQ has twice the measure of Side ST .
- B. Side PQ has the same measure as Side ST .
- C. Angle P has the same measure as Angle R .
- D. Angle Q has the same measure as Angle T .

14 Tim and Sasha are making a model sailboat. They want the sail to be in the shape of a right triangle. If the legs of the sail measure 8 and 15 inches, what would be the length of the hypotenuse?

- A. 13 in.
- B. 15 in.
- C. 17 in.
- D. 23 in.

15. What is the distance between Point $(3, 6)$ and the midpoint of the line segment connecting Points $(5, 6)$ and $(7, 2)$?

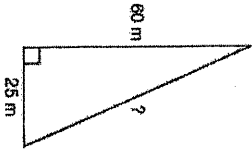


- A. 3
- B. 5
- C. 9
- D. 25

16. Triangle PQR has vertices $P(8, 6)$, $Q(8, -9)$, and $R(12, -9)$. What is the **approximate** length of segment PR ?

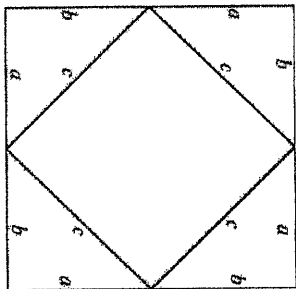
- A. 5.1 units
- B. 15.5 units
- C. 16.8 units
- D. 34.5 units

17. A support wire is attached to the top of a 60 meter (m) tower and is tied to the ground 25 m from the base of the tower. This situation can be modeled using the right triangle below. How long is the support wire?



- A. 54 meters
- B. 65 meters
- C. 85 meters
- D. 4,225 meters

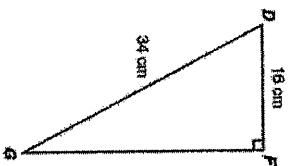
18. A smaller square, with side length c , is inscribed in a larger square as shown in the figure below.



Which equation can be simplified to prove the Pythagorean theorem?

- A. $(a+b)^2 = c^2 - 2ab$
- B. $(a+b)^2 = c^2 - 4ab$
- C. $(a+b)^2 = c^2 + 2ab$
- D. $(a+b)^2 = c^2 + 4ab$

19. Triangle DFG is shown below.

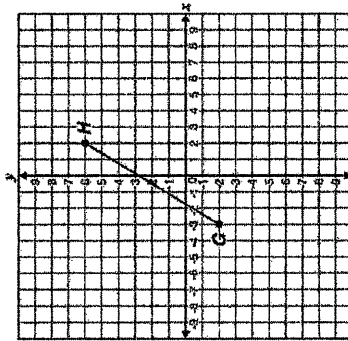


What is the area, in square centimeters, of Triangle DFG ?

20 A triangle has sides that measure 5 units, 7 units, and 8 units. Is this triangle a right triangle?

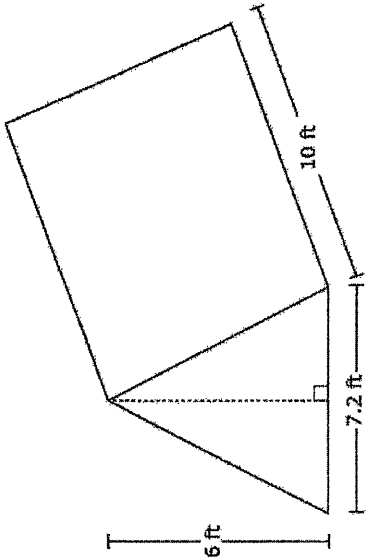
- A Yes, it is a right triangle because $7^2 + 5^2 = 8^2$
- B No, it is not a right triangle because $7^2 + 5^2 \neq 8^2$
- C Yes, it is a right triangle because $7^2 + 5^2 \neq 8^2$
- D No, it is not a right triangle because $7^2 + 5^2 = 8^2$

21 Line segment \overline{GH} is graphed on the coordinate plane below.



What is the length of \overline{GH} ? Record your answer to the nearest tenth of a unit.

22 A tent is shaped like an isosceles triangular prism with the dimensions shown. What is the total surface area, to the nearest tenth of a square foot, of the tent, including the ground floor?

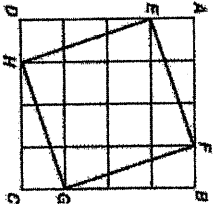


- A 177.2 ft²
- B 211.2 ft²
- C 255.1 ft²
- D 302.6 ft²

23. If a right triangle has legs equal to 5 inches and 12 inches, what is the length of the hypotenuse in inches?

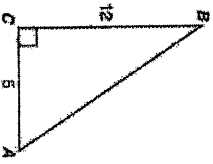
- A $\sqrt{17}$ inches
- B 6 inches
- C $\sqrt{119}$ inches
- D 13 inches

24 Which expression represents the area of Square $EFGH$?



- A. $\sqrt{3^2 - 1^2}$
- B. $\sqrt{3^2 + 1^2}$
- C. $3^2 - 1^2$
- D. $3^2 + 1^2$

25 What conclusion can be drawn by applying the Pythagorean theorem to this triangle?

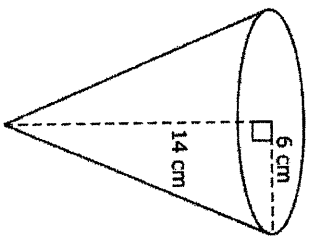


- A. $\angle CAB$ is a right angle
- B. $\triangle ABC$ is isosceles
- C. $AB = 13$
- D. $AB = 17$

26 A right circular cylinder has a volume of 10 cubic centimeters. A new right circular cylinder is created by increasing both the radius and the height of the original cylinder by a factor of 4. What is the volume of the new cylinder?

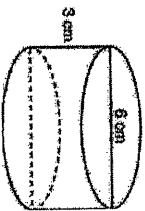
- A. 40 cubic centimeters
- B. 80 cubic centimeters
- C. 160 cubic centimeters
- D. 640 cubic centimeters

27 What is the **approximate** volume of the cone below?



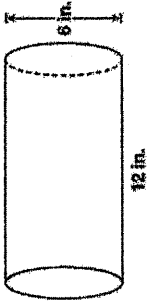
- A. 263 cm^3
- B. 528 cm^3
- C. 1,583 cm^3

28. ¿Cuál es el volumen de esta figura, en centímetros cúbicos?



- A. 9 π
- B. 18 π
- C. 27 π
- D. 36 π

29 What is the volume, in cubic inches, of the cylinder below?



- A 36π
- B 72π
- C 108π
- D 432π