Name: _____   Community _____

Math 7/Science Checklist: Q4 Weeks 3 & 4 - April 23rd-May 4th

Big Ideas:

Math:	Science:
❑ ▢ Change in Dimensions and Area ❑ ▢ Area of Inscribed and Composite Figures	❑ Food Chains and Webs ❑ Ecological Pyramids

Upcoming Dates:

Week 1	Week 2
▢ 4/23: ELA MAP test ▢ 4/25: Math MAP test	▢ 4/30: Science Test ▢ 5/1: 7th-Mr. Doug, 8th -Mr. Brian Math/Science split AND Study Guide Due ▢ 5/2-5/4 Spring Field Experience

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
❑ HW Dimension and Composite Video ❑ #1 Lesson Check-In 4/24	**SHOW ALL WORK** ❑Exploring the Effects of Changing Dimensions on Area (___✓,M,0) **AND** ❑Parts Sectioned Off Versatile **OR** Pi problems (___✓,M,0)	**SHOW ALL WORK** ▢ Geometry Study Guide (___%)	▢ purple book p. 281 & 282 (___%)
Monday's work plan: (Add missing works from last checklist) Time Estimate:		**Tuesday's work plan:** Time Estimate:	
❑Lesson #1: Food Chains/Webs ❑ Lesson Check-In 4/26	▢ <u>Food Chains and Webs Task Cards</u> Choose any three (___✓, M, 0)	▢ <u>Food Webs/Chains Analysis</u>(___%)	▢ <u>Biogeochemical Cycles Webquest</u> (___%) ▢ <u>Choice Extension Proposal</u> (___%)
Wednesday's work plan: Time Estimate:		**Thursday's work plan:** Time Estimate:	
❑ Lesson #2: Ecological Pyramids ❑ Lesson Check-in 4/27	▢ <u>Ecological Pyramid Creation</u> (___✓, M, 0)	▢ <u>Ecological Pyramid Analysis</u>	▢ Calculating Your Carbon Footprint (___%) ▢ Choice Extension Proposal (___%)(___%)
Friday's work plan: Time Estimate:			

Change in Dimensions Notes

Name_____

Original Rectangle	Rectangle 1	Rectangle 2	Rectangle 3
Length = Width = Area =	Length = 8 cm Width = 3 cm Area =	Length = 4 cm Width = 6 cm Area =	Length = 8 cm Width = 6 cm Area =
	When the length _____ _____ and the width _____, then the area _____	When the length _____ _____ and the width _____, then the area _____	When the length _____ _____ and the width _____, then the area _____

Original Circle	Circle 1	Circle 2
Radius = Area =	Radius = 2 cm Area =	Radius = 3 cm Area =
	When the radius _____ then the area	When the radius _____ then the area

⏸ **Pause the video and try these on your own!**
Then press play and check your answers with a color pen.

1. Looking at the original rectangle, what would happen to the area if you tripled the length, but kept the width the same? _____

2. Looking at the original rectangle, what would happen to the area if you tripled the length and the width? _____

3. Looking at the original circle, what would happen to the area if you quadrupled the radius?

_____

4. Looking at the original circle, what would happen to the area if you multiplied the radius by 7?

_____

Area of Inscribed and Composite Figures Notes

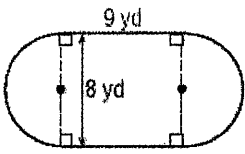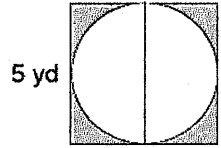Name_____

Composite Figures: Find the area of _____ figure separately and _____ the areas together

Inscribed Figures: Find the area of _____ figure separately and _____ the areas

Don't forget to show all of your steps:
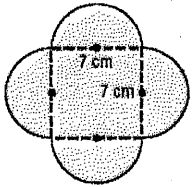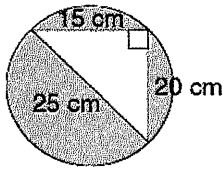**1)** Name the shape   **2)** Give the formula   **3)** Substitute in the values   **4)** Solve   **5)** Add the units
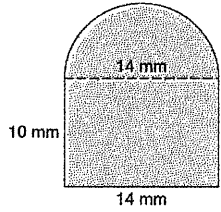
1. 9 yd 8 yd	
2. 5 yd	

⏸ **Pause the video and try these on your own!**
Then press play and check your answers with a color pen.

7 cm 7 cm **1.**	
15 cm 20 cm 25 cm **2.**	
14 mm 10 mm 14 mm **3.**	

Ecological Pyramids

Ecological Pyramids:

1.

2.

Energy Pyramids:

1.

2.

3.

4.

Biomass Pyramids:

1.

2.

3.
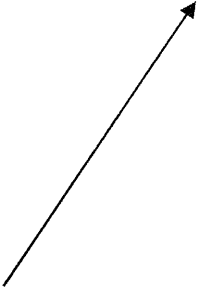
Number Pyramids:

1.

2.

Food Chains and Food Webs

Ecosystem Interactions:

1.

2.

3.

Stable Ecosystems:

1.

2.

3.

Niche:

Energy Flow in an Ecosystem:

1.

2.

3.

Organisms in each trophic level:
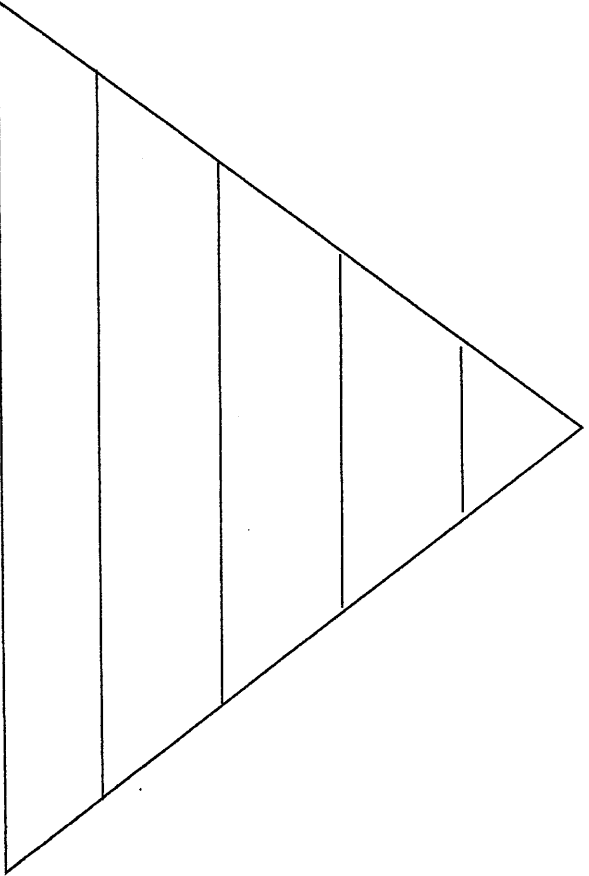
1. On a scale drawing, a building is $5\frac{3}{4}$ inches tall. If 1 inch represents 10 feet, what is the actual size of the building in feet?

   A. $50\frac{1}{2}$

   B. $50\frac{3}{4}$

   C. $57\frac{1}{2}$

   D. $57\frac{3}{4}$

2. Two students created models of the same building. One student used a scale factor of 3 centimeters (cm) = 15 meters (m). The second student used a scale factor of 4.5 = 15 m. The height of the original building is 20 meters. What is the difference between the heights of the two students' models?

   A. 1.5 cm

   B. 2 cm

   C. 6.5 cm

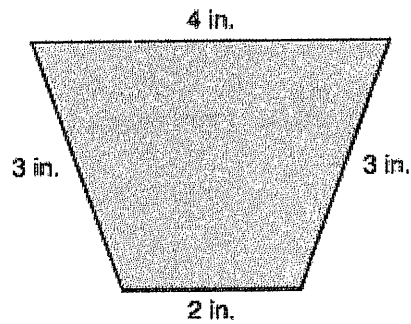   D. 33 cm

18. The sum of the interior angles of the regular polygon below is 720°. One exterior angle of the polygon is shown.
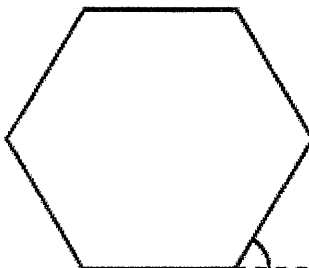
   What is the measure of each exterior angle?

   A. 60

   B. 72

   C. 108

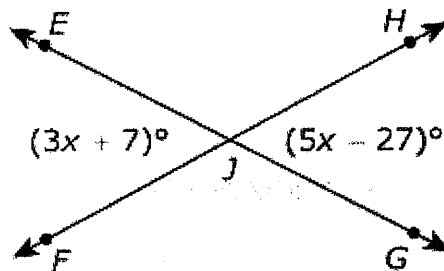   D. 120

3. **This diagram shows the plan for a wooden deck. The scale dimensions of the deck are shown.**

4 in.

3 in.   3 in.

2 in.

If the scale used in the diagram is $\frac{1}{4}$ in. = 1 ft, what is the perimeter of the actual deck?

A. 3 ft

B. 12 ft

C. 36 ft

D. 48 ft

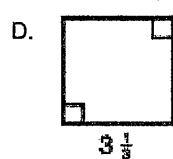19. In this figure, line *EG* intersects line *FH* at point *J*.
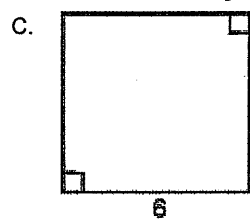

E   H

$(3x + 7)°$ $(5x - 27)°$
J

F   G
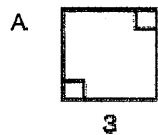
What is the measure of $\angle EJF$?

A. 17°

B. 37°

C. 58°

D. 82°

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4. **Which of the following figures is a dilation of the given square with a scale factor of $\frac{1}{3}$?**

9

A.

3

B.

3

9

C.

6

D.

$3\frac{1}{3}$
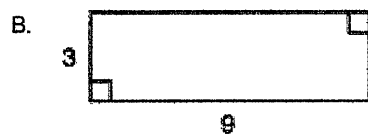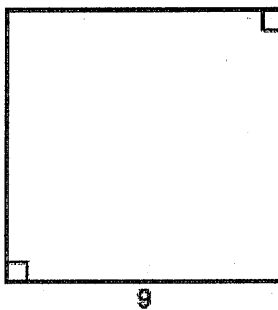
5. Figure $A'B'C'D'$ below is a dilation of Figure $ABCD$.
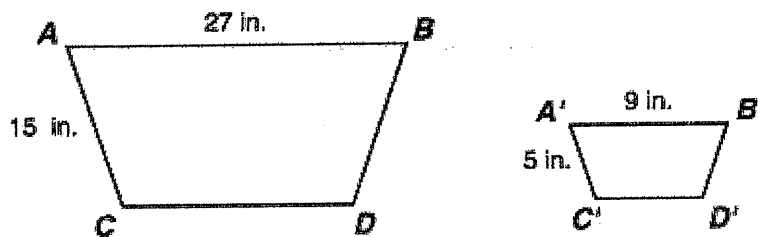
Note: The figures are not drawn to scale.

What scale factor was used to create Figure $A'B'C'D'$?

A $\frac{1}{3}$

B. $\frac{3}{5}$

C. 3

D. 10

6. Which choice shows three lengths that **cannot** be the lengths of the three sides of a triangle?

A 2 cm, 8 cm, 8 cm

B. 2 cm, 3 cm, 6 cm

C. 4 cm, 5 cm, 7 cm

D. 5 cm, 6 cm, 9 cm

7. Keith is trying to construct a $\triangle ABC$. Which measures will determine a unique triangle?

A $BC = 5$ cm; $m\angle B = 70°$; $m\angle C = 110°$

B. $BC = 5$ cm; $m\angle B = 90°$; $m\angle C = 110°$

C. $BC = 5$ cm; $m\angle B = 60°$; $m\angle C = 90°$

D. $BC = 5$ cm; $m\angle B = 90°$; $m\angle C = 90°$

8. Emilio's teacher asks him to draw a triangle that contains a right angle. Two of the three sides of the triangle must have measurements of 5 inches and 7 inches. How many possible measurements are there for the third side of the triangle?

   A. 0

   B. 1

   C. 2

   D. 3

9. Millie is drawing a triangle. One side has a length of 9 units, and another side has a length of 6 units. What could be the length of the third side of the triangle?

   A. 3 units

   B. 7 units

   C. 15 units

   D. 18 units

10. A rectangular piece of fabric with a design made up of semicircles is shown below. Each semicircle has a radius of 7 centimeters.

Fabric
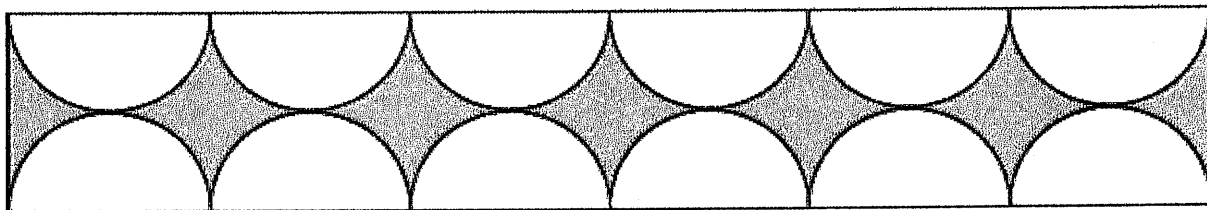
• What is the area of the shaded part of the fabric, in square centimeters? Show your work or write an explanation to support your answer. Give your solution using a complete sentence.

11. The circle at the center of a college basketball court has a diameter of 12 feet. What is the approximate area of this circle? (Use $\pi = 3.14$.)

   A. 18.84 sq ft

   B. 37.68 sq ft

   C. 113.04 sq ft

   D. 452.16 sq ft

12. **Which is the closest to the perimeter of the shaded figure inside the square? Use 3.14 for π.**

10 in.

10 in.
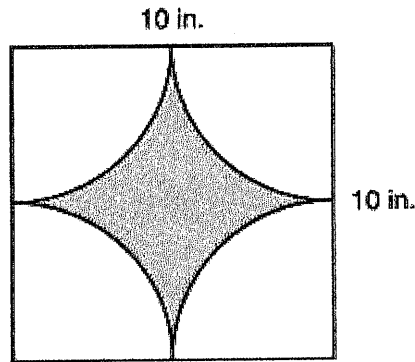
A.   21.5 inches
B.   31.4 inches
C.   40 inches
D.   100 inches

13. **A park has a circular goldfish pond. The area of the surface of the pond can be found by using this formula.**
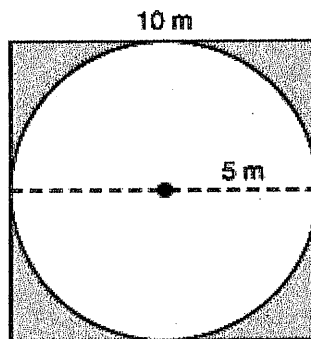
$$A = \pi r^2$$

What is the area, A, of the surface of the pond if its radius, r, is 5 feet? (Use 3.14 for π.)

A.   78.5 square feet
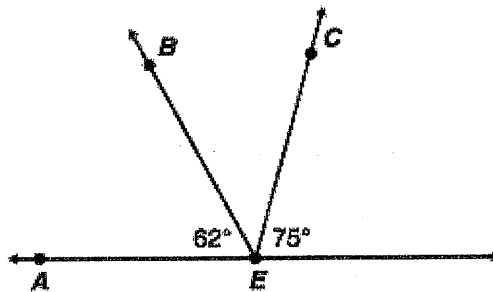B.   31.4 square feet
C.   15.7 square feet
D.   10.14 square feet

14. **Which is the closest to the area of the shaded region in the given square containing a circle?**
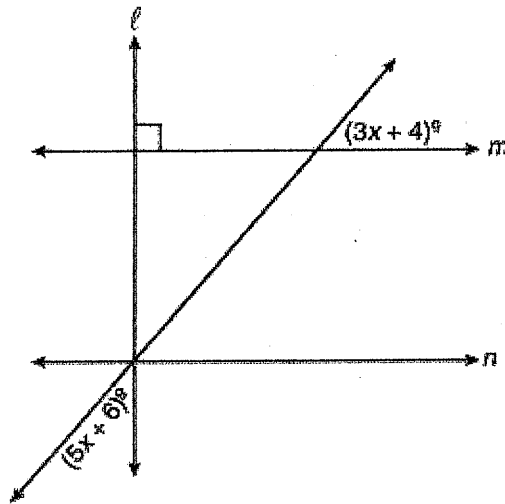
(Use $\pi \approx 3.14$.)

10 m

5 m

A   21.5 square meters

B.   50 square meters

C.   78.5 square meters

D.   100 square meters

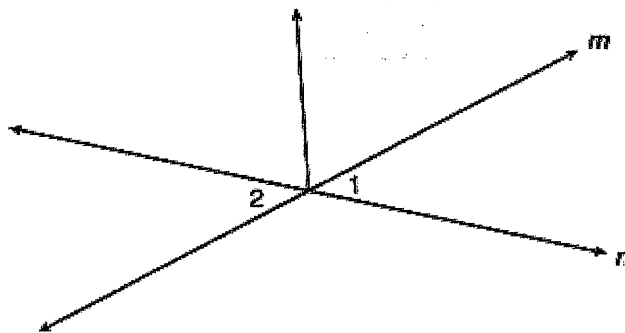15. **Given the information in the diagram below, what is the measure of $\angle BEC$?**

B   C

62°   75°

A   E

A $13°$

B. $43°$

C. $68.5°$

D. $137°$

16. **In the figure below, Lines _m_ and _n_ are parallel. Line _ℓ_ is perpendicular to Line _m_.**

What is the value of _x_ in this figure?

A. 1

B. 10

C. 13.7

D. 21.3

17. **Based on the diagram below, which statement could be used to prove $\angle 1 \cong \angle 2$?**

A. Vertical angles are congruent.

B. Supplementary angles are congruent.

C. Complementary angles are congruent.

D. Two angles that form a linear pair are congruent.