

## Unit 1 Square Roots and Pythagorean Theorem

Do you know:

1. The difference in Squaring a number vs Square rooting a number?

$$x^2 \text{ vs } \sqrt{x}$$

2. Does the side length get squared or square rooted to find area?

Does the area of the the square get squared or square rooted to find the side length?



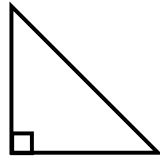
VS



$$6 \text{ cm} \text{ VS } 36 \text{ cm}^2$$

3. What's a perfect square? List the first 15 Perfect Squares...

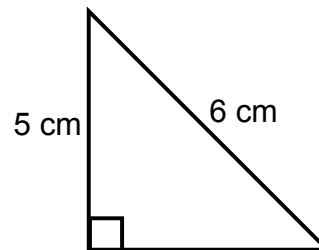
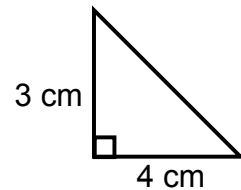
4. What is the hypotenuse of a triangle? How do you know?



5. What is Pythagorean Theorem? How is it used?

6. Use Pythagorean Theorem to solve the following examples:

Hint: How is the information in the triangle different?



## Unit 2 Integers

1. Can you add integers?

$$(+2) + (+3) =$$

$$(+2) + (-3) =$$

$$(-2) + (+3) =$$

$$(-2) + (-3) =$$

2. Can you subtract integers? Hint: add the opposite

$$(+2) - (+3) =$$

$$(+2) - (-3) =$$

$$(-2) - (+3) =$$

$$(-2) - (-3) =$$

3. Can you multiply integers?

$$(+6) \times (+3) =$$

$$(+6) \times (-3) =$$

$$(-6) \times (+3) =$$

$$(-6) \times (-3) =$$

4. Can you divide integers?

$$(+6) \div (+3) =$$

$$(+6) \div (-3) =$$

$$(-6) \div (+3) =$$

$$(-6) \div (-3) =$$

5. What is Order of Operations? When do you use this rule?

6. Solve the following examples:

a.  $(-5) + (-12) \div (-3) =$

b.  $(-3) \times (+7) \div (-2) + 5 =$

c.  $[7 - (-2)] \times 2 + (-12) \div (-4)$

d.  $[(-9) - (-2)] \times 8^2 + (-15) \div (-5) - [(-3) + (-2)]$

## Unit 3 Operations with Fractions

1. Can you add fractions? -- Hint: Common denominator -- 2. Can you subtract fractions?

$$\frac{1}{6} + \frac{1}{6} =$$

$$\frac{6}{7} - \frac{2}{7} =$$

$$\frac{3}{5} + \frac{1}{4} =$$

$$\frac{7}{8} - \frac{3}{7} =$$

3. Can you multiply fractions?

$$\frac{3}{5} \times \frac{2}{5} =$$

4. Can you divide fractions? Hint: Multiply reciprocal

$$\frac{7}{9} \div \frac{2}{5} =$$

$$\frac{4}{6} \times \frac{9}{8} =$$

$$\frac{4}{9} \div \frac{6}{8} =$$

5. Multiply a whole number by a fraction

$$2 \times \frac{2}{5} = \quad 5 \times \frac{4}{7} =$$

6. Can you simplify before solving

$$\frac{32}{45} \times \frac{42}{56} =$$

7. Convert mixed and improper fractions

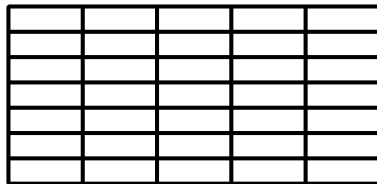
$$3\frac{2}{9} = \quad \frac{34}{7} =$$

$$\frac{72}{64} \div \frac{36}{76} =$$

7. Use diagrams to represent multiplication of fractions

Shaded Rectangle

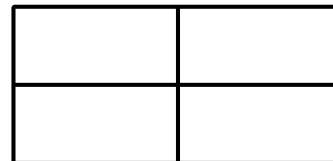
$$\frac{4}{7} \times \frac{2}{5}$$



Rectangle Model: Partial Product

\*Mixed fractions or double digit plus numbers

$$2\frac{1}{3} \times 5\frac{4}{7}$$



## Unit 4 Measuring Prisms and Cylinders

Do you know:

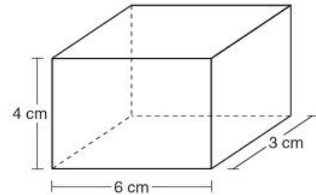
1. The difference between a prism and a pyramid?
2. Can you draw the nets for a pentagonal prism and a pentagonal pyramid?  
Can you draw the nets for a triangular prism and a triangular prism?

3. What's the difference between surface area and volume?

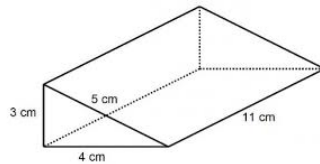
What do you need to consider when finding surface area?

What should you consider when finding volume?

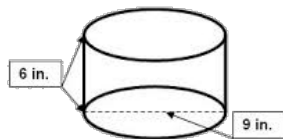
4. Calculate the surface area AND volume of this rectangular prism.



5. Calculate the surface area AND volume of this triangular prism.



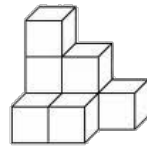
6. Calculate the surface area AND volume of this cylinder.



## Unit 8 Geometry

Do you know:

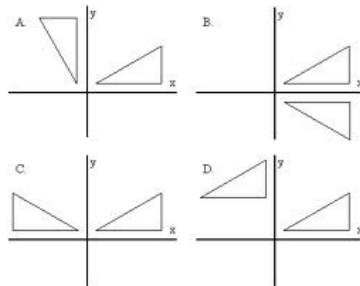
1. The difference between a horizontal and vertical axis
2. The difference between a horizontal rotation and a rotation about the horizontal axis?
3. Draw the front view, top view and both side views for this object.



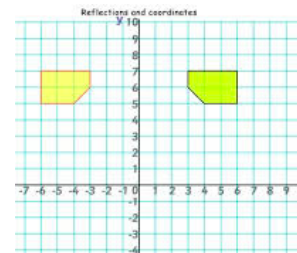
4. When drawing views of objects, we should only include lines to separate boxes when....

\*\*\*Please remember this is a skill that is used commonly, not always. Sometimes they use lines to separate every cube. What's the down side of them doing this?

5. Can you label and determine the 3 different transformations?

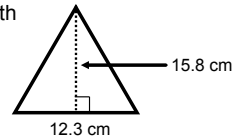


6. Can you prove where the reflection line is?



## Unit 1,2,3,4 and 8 Scavenger Hunt Review

1. Find the area of this triangle to the nearest tenth

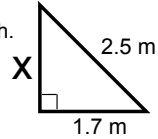


2. Black tiles represent positive value and white tiles represent negative value.

I have 12 sets of 4 black tiles. What integer do I have?

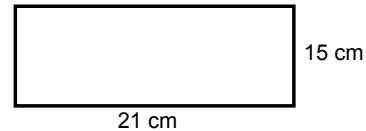
3. Solve for the missing side length.

Round to the nearest tenth.



4. Calculate the diagonal of this rectangle.

Round to the nearest tenth.



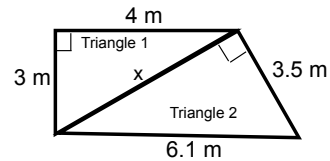
5. Use the following diagram to solve the following problems. Round answers to the nearest tenth.

5a) What's the missing side length?

5b) What's the area of triangle 1?

5c) What's the area of triangle 2?

5d) What's the difference in area between the 2 triangles?



6. The square of 9 cm is?

7. The square root of  $9 \text{ cm}^2$  is?

8. If the side length of a square is 10 cm, what is its area?

9. If the side length of a square is 13 cm, what is its perimeter?

10. If the area of a square is  $128 \text{ cm}^2$ , what is its side length?

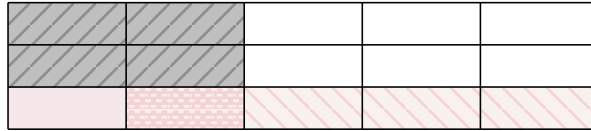
11. If the perimeter distance of a square totals 132 cm, what is its side length?

12. What's the smallest whole number that you can add to 17 to get a sum that is a perfect square?

13. What's the smallest whole number that you can multiply to 20 to get a product that is a perfect square?

14. What's the smallest whole number that you can divide to 48 to get a quotient that is a perfect square?

15. Write a fraction multiplication expression to match this rectangle model.

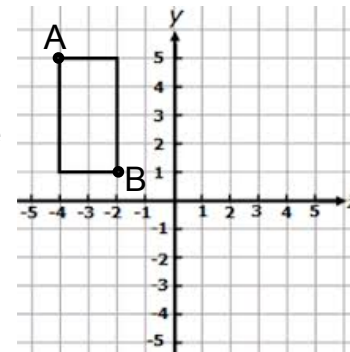


16. Solve the following order of operations question.

$$4 \times [12 + (-17)] - 6 \div (-3)$$

17. Reflect the following rectangle in the y axis, then translate it 3 units down and 1 unit right.

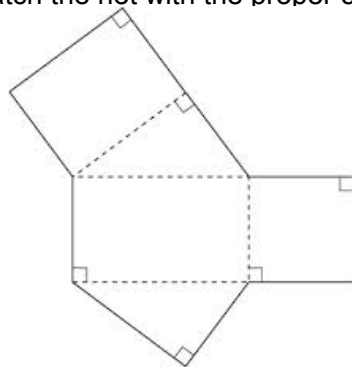
The new coordinate for A will be?



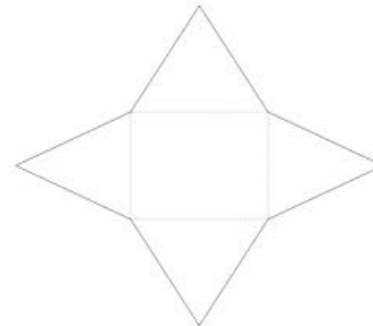
18. This rectangle was rotated 90 degree counterclockwise about point B to be in its current position. Point A's original position would be coordinates?

19. I play 18 holes of golf. On 4 holes I'm +2, on 3 holes I'm -1, on 1 hole I'm +5, on 4 holes I'm -2, on 3 holes I'm +4, on 2 holes I'm even, and 1 hole I'm -3. What's my final score?

20. Match the net with the proper 3D figure



21. Match the net with the proper 3D figure



22. Use distributive property to multiply these fractions. Determine what equation is missing from the model.

$$3\frac{4}{5} \times 7\frac{1}{6}$$

|               |   |               |
|---------------|---|---------------|
| 3             | 7 | $\frac{1}{6}$ |
| $\frac{4}{5}$ | ? |               |

23. Solve the following order of operations question.

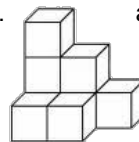
$$14 - (12^2 - 4) \div 2 \times \frac{1}{5} \div \frac{2}{5} + 4$$

24. I make my salary through commission. If I get  $\frac{3}{7}$  of my sales, how much do I make if my sales totalled \$3745.

25. I build  $\frac{4}{6}$  of a puzzle. How much is remaining to be solved?

26. I did half the puzzle. My sister did  $\frac{3}{5}$  of the remaining half of the puzzle. How much is left undone?

27. Draw the new front view of this object after a horizontal 90 degree clockwise rotation.



28. Draw the new front view of this object after a vertical 90 degree rotation towards you.

## Scavenger Hunt Passage

1 2 3 4 5a 5b 5c 5d 6 7 8 9 10 11

12 13 14 15 16 17 18 19 20 21

22 23 24 25 26 27 28 !!!