

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Blk: \_\_\_\_\_

Math 9: Practice Exam

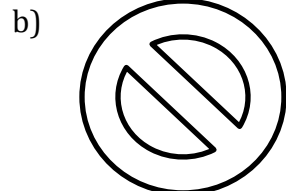
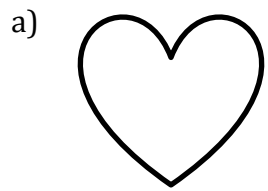
1. What are the three types of symmetry? Draw an example of each

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

2. What type of symmetry does each of the following have?

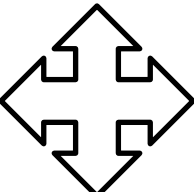
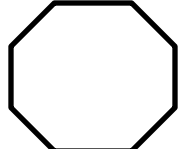
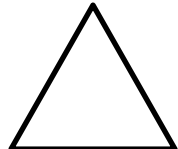


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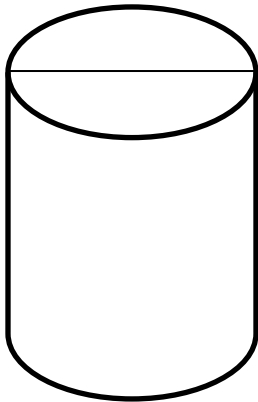
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3. Fill in the chart with the order or rotation, angle of rotation in degrees, and the angle of rotation in a fraction.

Figure	Order of Rotation	Angle of Rotation (degree)	Angle of Rotation (fraction)
			
			
			

4. Find the surface area:

a)



Diameter = 12 cm

Height = 17 cm

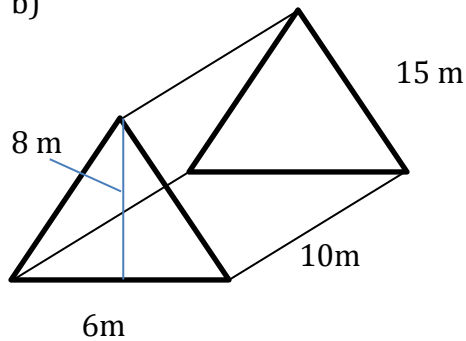
**Formulas:**

Area of a Square/Rectangle:  $L \times W$

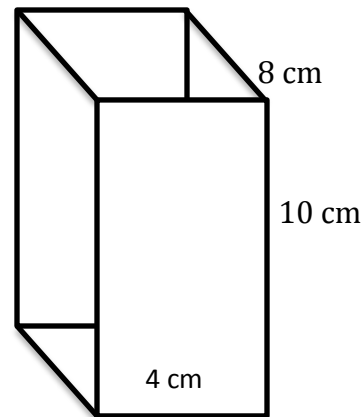
Area of a Triangle:  $\frac{b \times h}{2}$

Area of a Cylinder:  $2\pi r^2 + 2\pi rh$

b)

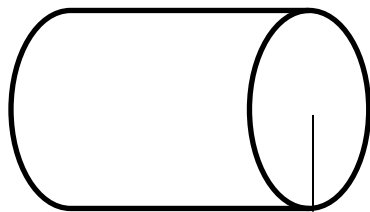


c)



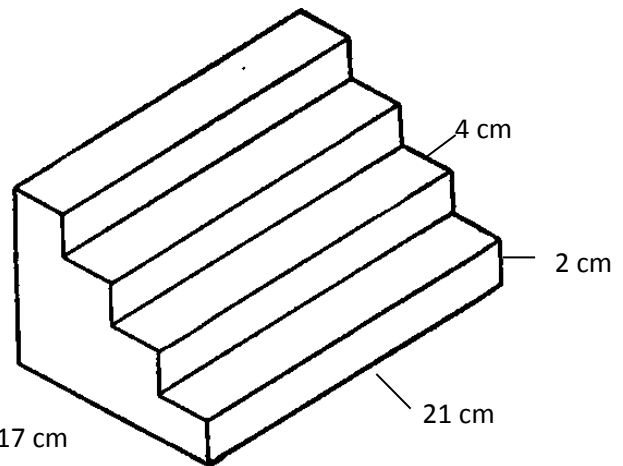
d) There is no top.

e) There are 5 stairs

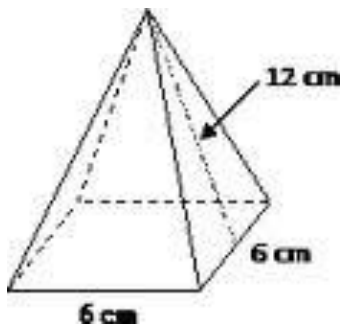


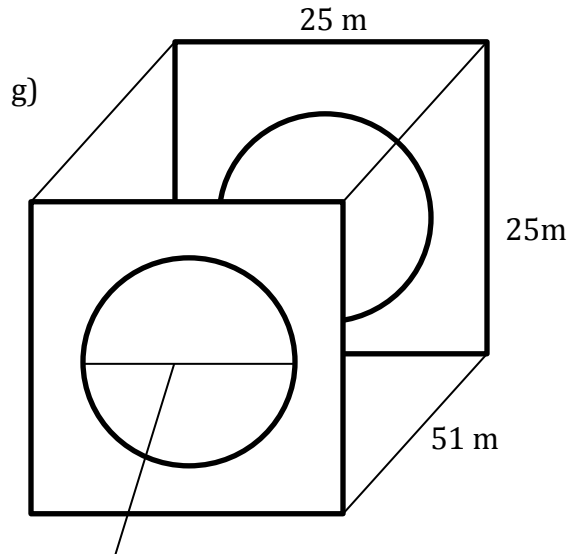
Radius = 5 cm

Length = 12 cm

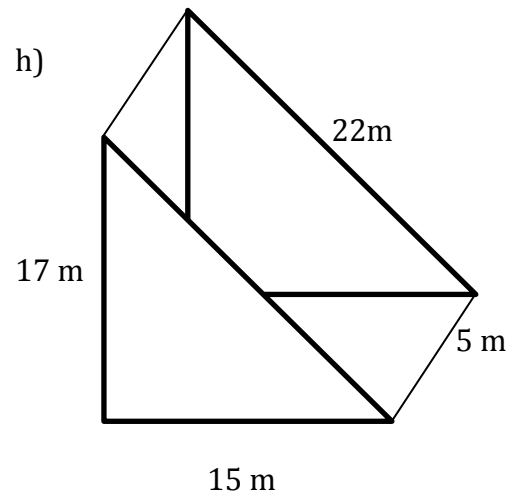


f)





**Radius = 8m**



5. Place the following on a number line.

- a)  $-\frac{1}{3}$       b)  $-1\frac{1}{4}$       c)  $1\frac{1}{2}$       d)  $-2\frac{1}{3}$       e)  $\frac{7}{8}$



6. Write the following in ascending order.

- $-\frac{1}{2}$        $\frac{4}{5}$        $\frac{7}{8}$        $-0.5$        $-\frac{7}{8}$

7. Write an equivalent fraction.

- a)  $\frac{2}{3}$       b)  $\frac{-4}{7}$       c)  $\frac{-4}{-5}$       d)  $\frac{8}{9}$

8. Solve. Don't forget to re-write the question Ms. Conway's way – DO NOT USE A CALCULATOR!

- a)  $(+7) + (-7)$       b)  $(-3) - (-5)$       c)  $4 + (-3)$       d)  $(-12) + (-15) - (-13)$

e)  $(-6)(-7)$

f)  $(-4)(3)$

g)  $(9)(-4)$

h)  $(-11)(3)(-2)$

i)  $-3 + (-7) - (-5)$

j)  $4 - (6) + (-3)$

k)  $(-2)(-3)(-4)$

l)  $(9)(-8)(-2)$

9. Solve. Don't forget to re-write the question Ms. Conway's way. You may use a calculator.

a)  $0.63 + (-3.1)$

b)  $-3.6 - (-2.1)$

c)  $4.2 - (6.9) - (-4.2)$

10. What does BEDMAS stand for?

B: \_\_\_\_\_

E: \_\_\_\_\_

D: \_\_\_\_\_

M: \_\_\_\_\_

A: \_\_\_\_\_

S: \_\_\_\_\_

11. Solve.

a)  $(2.1 - 4.2) + (6.2 - 7.2)$

b)  $(-6.4 \times 3.1) + 2.9 (-3.4)$

c)  $2 + 2 (6+3.4) - (6.5 - 5)$

d)  $3.4 + 2.9 \times 3.1 \div 2$

12. Change to an improper fraction.

a)  $1 \frac{1}{2}$

b)  $-2 \frac{1}{4}$

c)  $-4 \frac{2}{5}$

d)  $3 \frac{7}{8}$

13. Change to a mixed number.

a)  $\frac{-14}{5}$

b)  $\frac{17}{2}$

c)  $\frac{-20}{3}$

d)  $\frac{16}{6}$

14. Add or subtract. Remember that the denominators need to be the same.

a)  $\frac{3}{10} + \frac{4}{10}$

b)  $\frac{4}{5} - \frac{1}{2}$

c)  $\frac{6}{7} + \frac{2}{3}$

d)  $4 \frac{4}{5} + 3 \frac{1}{2}$

e)  $2 \frac{1}{3} + (-4 \frac{2}{5})$

f)  $\frac{2}{5} - (-\frac{1}{10})$

15. Multiply or divide.

a)  $\frac{3}{4} \times \frac{5}{6}$

b)  $\frac{1}{2} \times \frac{3}{5}$

c)  $1 \frac{1}{2} \times 2 \frac{3}{5}$

d)  $2 \frac{3}{4} \times 3 \frac{1}{4}$

e)  $\frac{3}{8} \div \frac{2}{5}$

f)  $2 \frac{1}{2} \div 4 \frac{2}{3}$

g)  $1\frac{2}{3} \times (-4\frac{1}{2}) + \frac{6}{8}$

h)  $\frac{1}{2} - \frac{2}{3} (\frac{1}{4} + \frac{2}{5})$

i)  $1\frac{1}{2} + 1\frac{1}{2} (-2\frac{5}{6} + \frac{1}{3})$

j)  $\frac{3}{4} \div \frac{5}{8} - \frac{3}{8} \div \frac{1}{2}$

16. If the area of a square is  $64\text{m}^2$ , how long are the sides?

17. If the side length of a square is 4m, what is the area?

18. What number has a square root of 0.6?

19. Are the following perfect squares?

a) 36

b) 12

c)  $\frac{25}{49}$

d) 0.4

e)  $\frac{64}{26}$

f) 1.2

20. Write as a single power.

a)  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

b)  $8 \times 8 \times 8 \times 8$

c)  $(-4)(-4)(-4)(-4)(-4)$

21. Expand and solve.

a)  $(-9)^2$

b)  $-2^3$

c)  $3^5$

d)  $(-6)^4$

22. What are the exponent laws?

1.

4.

7.

2.

5.

3.

6.

23. Write as a single power and evaluate.

a)  $2^3 \times 2^6$

b)  $3^6 \div 3^2$

c)  $4 \times 4^2$

d)  $2 \times 2^4 \times 2^3$

e)  $(-2)^3 (-2)^7$

f)  $(-3)^6 \div (-3)^2$

24. Write as two powers, then as single power.

a)  $(2 \times 2 \times 2)(2 \times 2 \times 2 \times 2 \times 2)$

b)  $(4 \times 4 \times 4 \times 4 \times 4) \div (4 \times 4)$

c)  $\frac{6 \times 6 \times 6}{6}$

25. Solve.

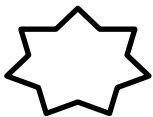
a)  $7 (-3)^2$

b)  $9 + (-2)^3 - 2(3)^2$

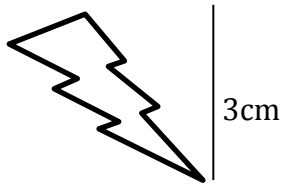
c)  $2^4 - 4^2$

d)  $4 - (4-1)^2 \div 3^0$

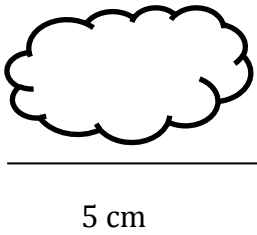
26. The actual size of the star is 2cm; if the scale factor is 1:17, what is the size of the drawing?



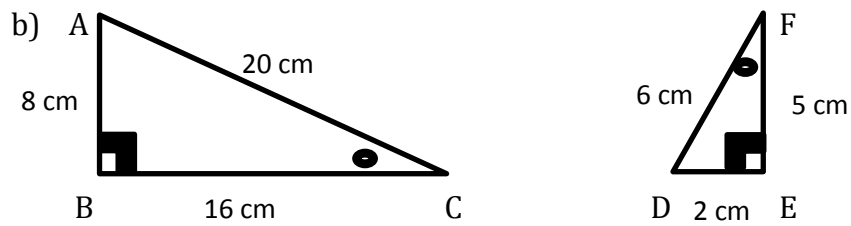
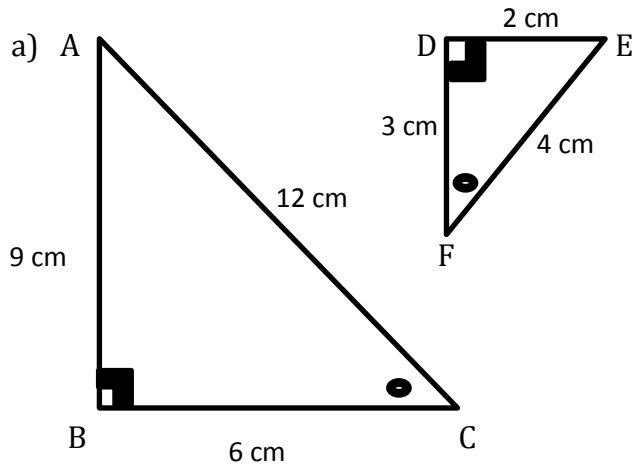
27. The scale factor is 1:3; what is the actual size of the lightning bolt?



28. If the actual cloud is 15 m wide, what is the scale factor?



29. Are the triangles similar?





30. Assume the figures are similar. Solve for the variable.

