

4.4

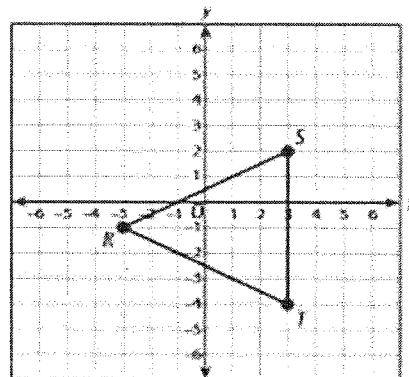
**Polygons in the Coordinate Plane
Day 2**

Essential Question How can you find the lengths of line segments in a coordinate plane?

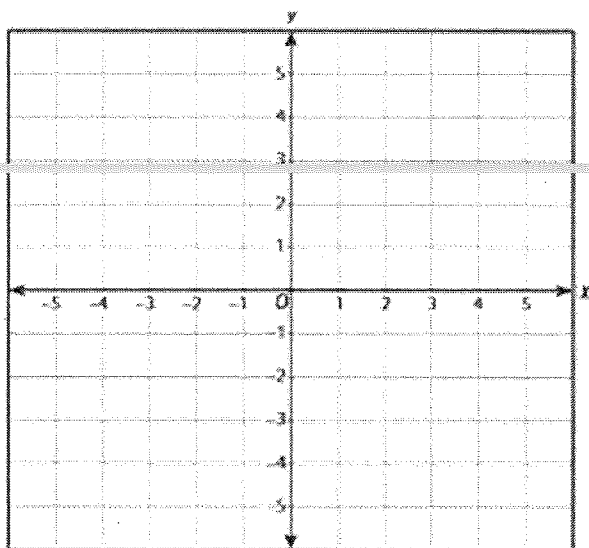
Homework

1 Triangle *RST* is shown on the coordinate plane. What is the distance between point *S* and point *T*?

- A 8 units
- B 6 units
- C 5 units
- D 3 units



2 The art club is designing a rectangular mural for the school hallway. Three corners are located at $(-1, -1)$, $(-1, 1)$, and $(4, 1)$ on a coordinate plane. Find the fourth vertex and graph the rectangle on the coordinate plane below.



Fourth vertex: _____

3 Three corners of a rectangular dog park are located at $(-2, -1)$, $(-2, 3)$, and $(5, 3)$ on a coordinate plane. What is the total length of the fencing that is needed to enclose the dog park?

Show your work.

Answer: _____ units

Name: _____

Date: _____

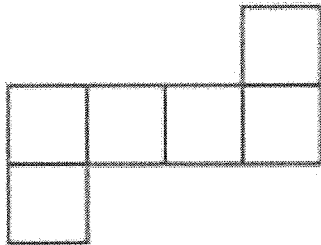
Ms. Napolitano

Nets and Surface Area

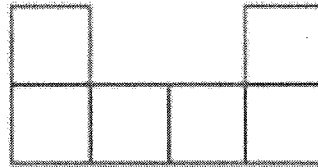
I can determine the surface area for a rectangular prism.

A Copy each net on graph paper. Cut out each net along the blue lines.

Net A



Net B



One of these nets can be folded along the black lines to make a cube.

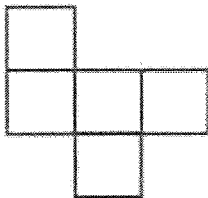
Which net will NOT make a cube? _____

B On your graph paper, draw a different net that you think will make a cube. Confirm by cutting out and folding your net. Compare results with several of your classmates. How many different nets for a cube did you and your classmates find? _____

reflect

How do you know that each net cannot be folded into a cube without actually cutting and folding it?

1.



2.



Lesson 6.6 Surface Area: Rectangular Solids

The **surface area** of a solid is the sum of the areas of all surfaces of the solid. A rectangular solid has 6 surfaces.

The area of each surface is determined by finding:

length \times width, length \times height, width \times height

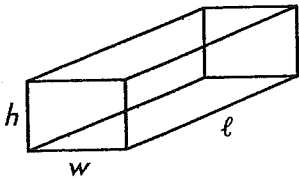
The total surface area is found using this formula:

$$SA = 2lw + 2lh + 2wh$$

If $l = 10$ m, $w = 6$ m, and $h = 4$ m, the surface area is found as follows:

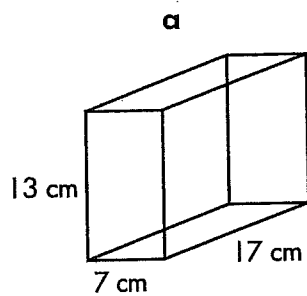
$$SA = 2(10 \times 6) + 2(10 \times 4) + 2(6 \times 4)$$

$$SA = 2(60) + 2(40) + 2(24) = 120 + 80 + 48 = 248 \text{ m}^2$$



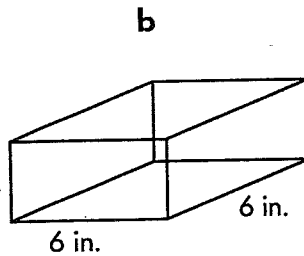
Find the surface area of each rectangular solid.

1.



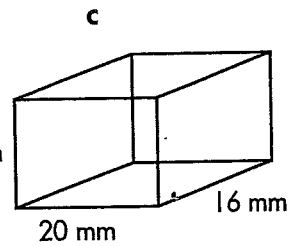
SA = _____ cm^2

3 in.



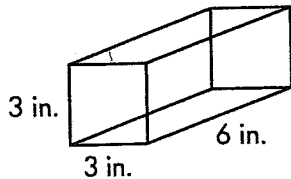
SA = _____ in^2

15 mm



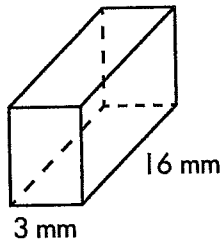
SA = _____ mm^2

2.



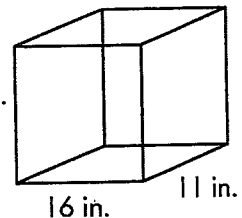
SA = _____ in^2

4 mm



SA = _____ ft^2

17 in.



SA = _____ in^2

Name: _____

Date: 7th grade

Inequalities - Intro to Notation and Graphing

Class: **Math 7**

Extra Practice/Homework

For #'s 1-9: Graph the solution set of each inequality on the number line.

#1.) $x \geq 6$

#2.) $-7 > x$

#3.) $x \neq 10$



#4.) $x < 4$

#5.) $x > -14$

#6.) $x = -3$



#7.) $x \geq -9$

#8.) $x \leq 7.5$

#9.) $x < 11$



10. Explain the difference between an equation, like $x = 5$, and an inequality, like $x \geq 5$.

11. This graph shows the solution of what inequality? _____



12. What inequality is represented by the graph below?



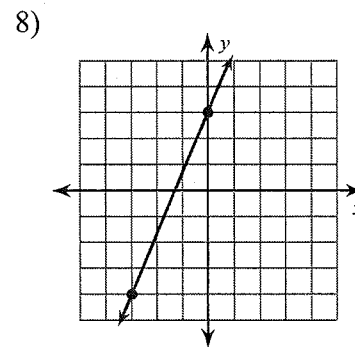
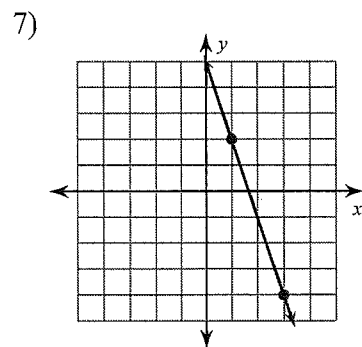
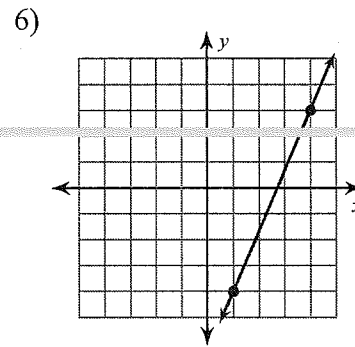
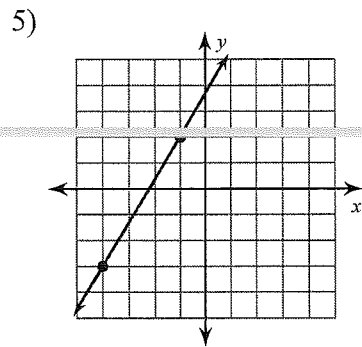
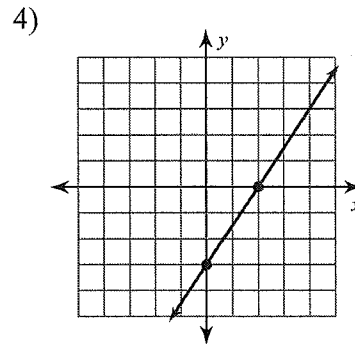
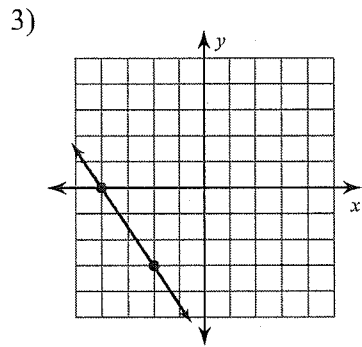
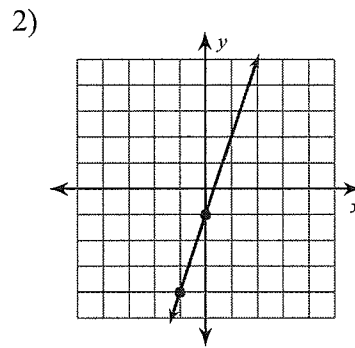
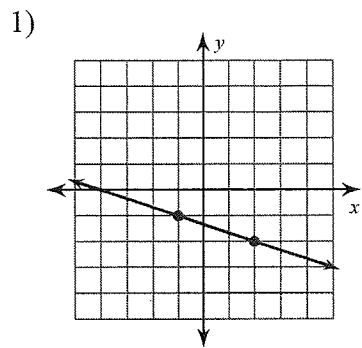
- A) $x > -1$ B) $x \leq -1$ C) $x < -1$ D) $x \geq -1$

13. Which one of the following graphs represents the solution set of $x \geq 2$?

- A) C)
- B) D)

Slope

Find the slope of each line.



Find the slope of the line through each pair of points.

9) $(8, 10), (-7, 14)$

10) $(-3, 1), (-17, 2)$

11) $(-20, -4), (-12, -10)$

12) $(-12, -5), (0, -8)$

13) $(-19, -6), (15, 16)$

14) $(-6, 9), (7, -9)$

15) $(-18, -20), (-18, -15)$

16) $(12, -18), (11, 12)$

Find the slope of each line.

17) $y = -5x - 1$

18) $y = \frac{1}{3}x - 4$

19) $y = -\frac{1}{5}x - 4$

20) $x = 1$

21) $y = \frac{1}{4}x + 1$

22) $y = -\frac{2}{3}x - 1$

23) $y = -x + 2$

24) $y = -x - 1$

25) $2x + 3y = 9$

26) $5x + 2y = 6$

RSCS
Class: _____

Name: Caltech
Date: _____

Exponents & Scientific Notation Review Sheet

Simplify in positive exponential form:

1) $2^4 \cdot 2^2 =$ _____

3) $5^4 \div 5 =$ _____

5) $(10^6)^3 =$ _____

2) $7^0 =$ _____

4) $12^{-6} =$ _____

6) $(4^{-2})^{-1} =$ _____

Express in Scientific Notation:

7) 1,610,000 = _____

8) 0.00156 = _____

Express in Standard Notation:

9) $3.5 \times 10^5 =$ _____

10) $1.902 \times 10^{-3} =$ _____

Determine whether the following are in correct Scientific Notation. If not, change them:

11) 2.3×10^5 _____

12) $82.5 \times 10^{-5} =$ _____

Multiply/Divide:

~~12) $(4.2 \times 10^{24}) \cdot (1.5 \times 10^5) =$~~

13) $(6.4 \times 10^{-4}) \div (4 \times 10^6) =$ _____

Order the following numbers from least to greatest:

14) 4.8×10^{-3} 5.3×10^{-7} 5.01×10^{-4} 5.2×10^{-7}

Add/Subtract

15) $2.67 \times 10^4 + 6.87 \times 10^7$

16) $5.2 \times 10^6 - 3.1 \times 10^4$

17) $1.3 \times 10^{-7} + 4.7 \times 10^{-4}$

More Exponents Review. Write your answer with a positive exponent.

1) $\frac{(12^3)^{-2}}{3^{-6}}$

2) $4^{-3} \times 4^7 \div 4^{-6}$

3) $12^{-4} \times \frac{4^{-6}}{4^{-2}}$

4) $\frac{4^{-2} \times 4^{-8}}{4^3}$

Complete the rest of the review sheet on a separate sheet of paper.

Write your answer in scientific notation.

1. A country has a population of 1.35×10^7 people. The country has an area of 5.4×10^4 square miles. Find the population density of the country, in people per square mile.
2. The space shuttle orbits Earth at a speed of approximately 2.8×10^4 kilometers per hour. The longest shuttle mission was about 4.2×10^2 hours long. Find the approximate distance that shuttle traveled during its mission.
3. In 2007 there were about 7.21×10^7 dogs kept as pets in the United States. In the same year there were about 8.17×10^7 cats kept as pets in the United States. About how many dogs and cats were kept as pets in total?
4. The diameter of a red blood cell is 8.4×10^{-6} . The diameter of the average cell in the human body is 1×10^{-5} . How many times larger is the diameter of the average cell than the diameter of the red blood cell?
5. The average mass of a grain of sand on a beach is about 1.5×10^{-5} g. There are about 5.1×10^{11} grains of sand in a beach volleyball court. What is the mass of the grains of sand in the beach volleyball court?
6. The 2010 population of India was about 1.16×10^9 people. The 2010 population of the United States was about 3.1×10^8 people. About how many more people lived in India than in the United States in 2010?
20. **Demographics** New York County in New York had a population of about 1.54×10^6 people in 2000. Erie County had a population of about 9.5×10^5 people. Find the approximate combined populations of New York and Erie counties in 2000.
21. **Life Science** An adult blue whale can eat 4.0×10^7 krill in 1 day. At that rate, how many krill could an adult blue whale eat in 3.5×10^2 days?
22. **Business** A corporation has 4.8×10^3 employees. The average annual salary for each of its employees is $\$4.5 \times 10^4$. Approximately how much does the corporation pay its employees each year?
23. If there are 8.4×10^3 tiny insects living in each square foot of a field and the field has 6.72×10^2 square feet, how many insects are living in the field?
24. A sample from the Sahara Desert contains 2.173×10^8 grains of sand. A sample from the Chihuahuan Desert has 8.801×10^7 grains of sand. Which sample has more grains of sand? How much more does it have?