

## Math 7 and Math 7 Accel

---

Mrs. Rutherford

rrutherf@horseheadsdistrict.com

### Checklist:

- Workbook: Units 1-4
  - Workbook: Units 5-7
  - Workbook: Units 8-10
  - Math Binder
  - Review Packet
- 
-



Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 1 Review

Period \_\_\_\_\_

Circle the correct answer for each multiple choice. Show work.

1. The temperature at 9:00 P.M. was  $16^{\circ}\text{C}$ . The temperature dropped  $3^{\circ}\text{C}$  per hour. What was the temperature at 2:00 A.M.?

A.  $-1^{\circ}\text{C}$                       C.  $1^{\circ}\text{C}$   
B.  $-13^{\circ}\text{C}$                       D.  $13^{\circ}\text{C}$

2. Which of the following has the **greatest** value?

A.  $|1|$                               C.  $-|5|$   
B.  $0$                                 D.  $|-3|$

3. When  $a = -9$  and  $b = -6$ , which expression has a value of  $-3$ ?

A.  $a + b$                       B.  $|a + b|$   
C.  $a - b$                       D.  $|a - b|$

4. What is the value of the expression below?

$|24 \div (-3)| + |-14 \div 2|$   
A.  $1$                                 C.  $15$   
B.  $-1$                                 D.  $-15$

Find the value of each. Show work.

5.  $|7 - 9|$

6.  $|-3 + 8|$

7.  $-|4 - 5|$

Evaluate the Expression. Show all work.

8.  $-6 \cdot 7 - (-16) \div 8$

Find the mean of the integers. Show all work.

9.  $-6, 4, -2, -8$

10. Explain how to determine if a product is positive or negative. Write an explanation then give an example of a positive product and an example of a negative product.

---

---

---

---

---

Write the rational number as a decimal. Show work.

11.  $2\frac{2}{5} = \underline{\hspace{2cm}}$

Write the decimal as a fraction or mixed number in simplest form. Show work.

12.  $-0.24 = \underline{\hspace{2cm}}$

13. Your skateboard ramp is  $3\frac{3}{4}$  feet high. Your friend's skateboard ramp is  $3\frac{2}{5}$  feet high. Which skateboard ramp is higher? Show work to support your answer.
- 

**Add or subtract. Write fractions in simplest form. Show all work.**

14.  $-\frac{5}{3} + 2\frac{1}{3}$

15.  $-5.75 - (-3.4)$

**Multiply or divide. Write fractions in simplest form. Show all work.**

16.  $(-0.75)\left(-2\frac{1}{3}\right)$

17.  $-2\frac{2}{3} \div \frac{8}{12}$

---





Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 2 Review

Period \_\_\_\_\_

Find the sum or difference. Show ALL work.

1.  $(6x - 2) + (3x - 4)$

2.  $(5y + 6) - (3y - 3)$

3.  $(-7a + 5) + 3(2a - 4)$

4.  $\frac{1}{2}(8x - 6) - 2(3 - 4x)$

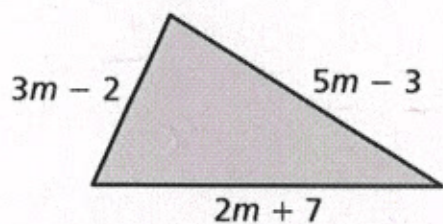
---

Factor the following expressions. Show ALL work.

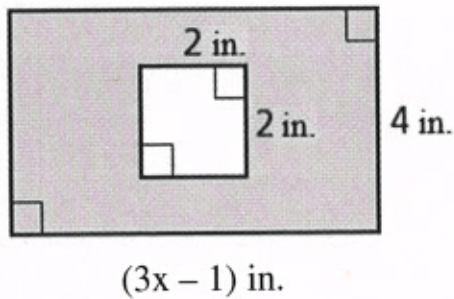
5.  $8x - 64$

6.  $4x + 24xy$

7. Write an expression in simplest form that represents the perimeter of the polygon.



8. Write an expression in **simplest form** that represents the **area** of the shaded region.



Translate each of the following into an algebraic expression. Show **ALL** work.

9. The sum of a number,  $x$ , and 6. \_\_\_\_\_
10. Four more than three times a number,  $x$ . \_\_\_\_\_
11. Twelve less than the product of a number,  $x$ , and 4. \_\_\_\_\_
12. The quotient of ten and a number,  $x$ , less 8. \_\_\_\_\_

Evaluate the expression if  $x = \frac{1}{3}$  and  $y = -5$ . Show **ALL** work.

13.  $9xy + 2y$



Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 3 Review

Period \_\_\_\_\_

**Multiple Choice: Show work to support your answer.**

1. Which of the following equations is equivalent to the equation  $-2(-3x - 4) = 44$ ?

A.  $-6x + 8 = 44$

C.  $6x - 8 = 44$

B.  $-6 - 8 = 44$

D.  $6x + 8 = 44$

2. Which of the following describes a correct method for solving the equation below?

$$6 - \frac{3}{5}x = -6$$

A. Add 6 to both sides, then divide both sides by  $-\frac{3}{5}$ .

B. Subtract 6 from both sides, then multiply both sides by  $-\frac{3}{5}$ .

C. Add 6 to both sides, then divide both sides by  $-\frac{5}{3}$ .

D. Subtract 6 from both sides, then multiply both sides by  $-\frac{5}{3}$ .

**Write the word sentence as an equation. Show ALL work.**

3. 10 less than a number  $y$  is negative 5. \_\_\_\_\_

4. The sum of a number  $y$  and 3 is -6. \_\_\_\_\_

5. Three times the difference of -2 and  $y$  is 9. \_\_\_\_\_

6. Half of a number  $y$  is equal to 7. \_\_\_\_\_

**Solve the equation. Check your solution. Show ALL work.**

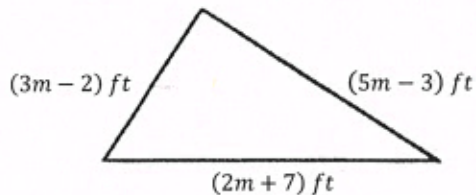
7.  $-7.6 = a + 3.9$

Solve the equation. Check your solution. Show ALL work.

8.  $2 - 3x = 2(x - 4)$

9.  $\frac{1}{2}(4x + 2) = 43 - 5x$

10. Write an equation in simplest form to find the value of  $m$  if the perimeter of the triangle is 122 feet.



a) Equation: \_\_\_\_\_

b) Solve for  $m$ : Show ALL work.

11. Dan joined a health club. He paid a yearly membership fee of \$300 that covers all the club's services except use of the racket ball court. Dan paid \$5 each time he used a racket ball court. For the entire year at the health club, Dan paid a total of \$425.

*Part A* Write an equation to represent the problem. Use  $r$  to represent the number of times Dan used a racket ball court.

Equation \_\_\_\_\_

*Part B* Solve the equation you wrote in Part A to find how many times Dan used a racket ball court .

Show your work.

Dan used a racket ball court \_\_\_\_\_ times.

Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 4 Review

Period \_\_\_\_\_

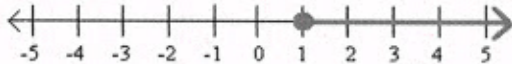
Write an inequality for the graph.



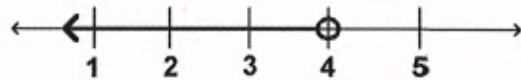
2.



3. \_\_\_\_\_



4.



\_\_\_\_\_

\_\_\_\_\_

Write the word sentence as an inequality. Show ALL work.

5. A number  $y$  plus 7 is less than 45. \_\_\_\_\_

6. A number  $x$  divided by  $-1$  is at least  $-4$ . \_\_\_\_\_

7. The people in the boat,  $p$ , are no more than 30 years old. \_\_\_\_\_

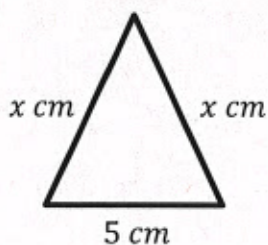
8. The minimum cost,  $c$ , for parking is \$3. \_\_\_\_\_

Explain whether the given value is a solution of the inequality. Show ALL work.

9.  $-3 < \frac{x}{2}$ ;  $x = -1$

10.  $-2x + 1 < 5$ ;  $x = -1$

11. An isosceles triangle has a base of 5 centimeters and legs  $x$  centimeters long. The perimeter is no less than 37 centimeters. Write and solve an inequality to find the possible values of  $x$ . Show ALL work.





12. An elevator can carry 800 pounds of weight at most.

a. A student weighing 95 pounds gets on the elevator. Write an inequality to represent the remaining weight that can be added to the elevator.

b. Can two more football players weighing a total of 700 pounds get onto the elevator with the first student and still be within the weight requirements? Explain.

Solve and graph the inequality. Show ALL work.

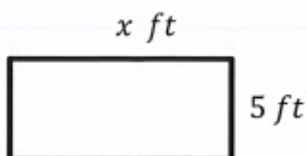
13.  $x + 2 \leq -4$

14.  $4x - 3 \geq -1$

15.  $6 > -3(x + 2)$

Write and solve an inequality that represents all the possible values of  $x$ . Show ALL work.

16. The area is more than 15 feet squared.



Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 5 Review

Period \_\_\_\_\_

Read directions for each problem carefully.

1. Which ratio is a unit rate? Select all that apply.

a.  $\frac{1\frac{1}{2} \text{ pickles}}{1 \text{ person}}$

b.  $\frac{23\frac{2}{5} \text{ pounds}}{1 \text{ box}}$

c.  $\frac{9 \text{ cans}}{2 \text{ bags}}$

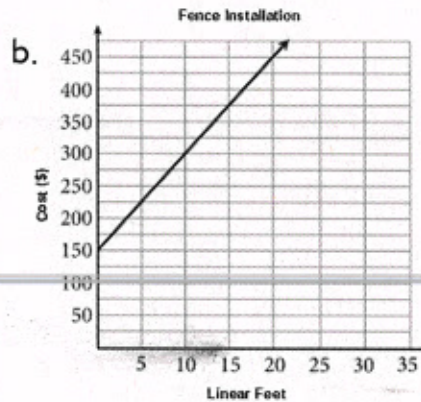
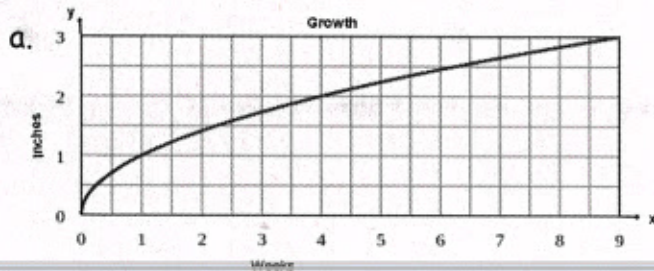
d.  $\frac{3\frac{1}{4} \text{ cups sugar}}{1\frac{1}{2} \text{ tpoons salt}}$

e.  $\frac{\$16.25}{3 \text{ hours work}}$

2. A pool is being filled with water at a rate of 2 gallons per minute. How many quarts per minute is this? Show work.

- a. 1 quart/minute
- b. 3 quarts/minute
- c. 4 quarts/minute
- d. 8 quarts/minute

3. Which of the following shows a proportional relationship? Show work.



c.

Cost (y)	\$5	\$7.50	\$12.50
Pounds (x)	2	3	5

d.

Hours	Miles
2	106
3	159
4	212
5	260



4. Which situation represents a proportional relationship?
- A recipe uses 1 tablespoon of sugar for every 1 to 2 cups of flour.
  - Marc jogs between 5 and 8 miles every 2 to 3 days.
  - It snowed 2 inches every hour.
  - There is one table for every 6 to 8 chairs.

5. Jax uses the recipe shown for a science experiment.

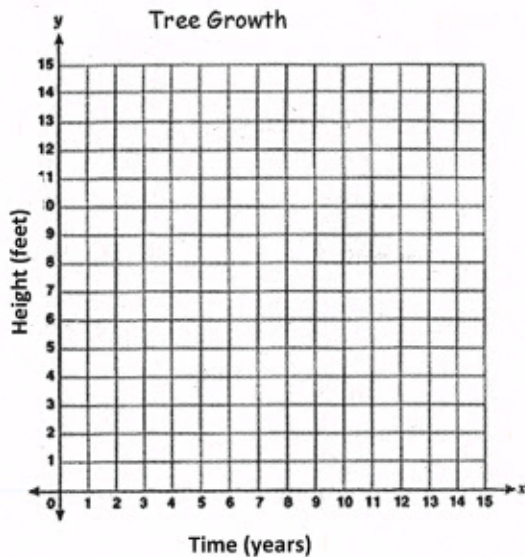
Jax's Science Recipe	
$3\frac{4}{5}$ fluid ounces	water
$1\frac{1}{5}$ fluid ounces	red dye

How much red dye will he need to make 125 fluid ounces of his mix. Show all work.

6. The table below shows the amounts, in feet, a tree grew over time, in years.

Height (feet)	2	4	6
Time (years)	1	2	4

- a. Graph the data.



- b. Does your graph show proportional relationship? Explain.

7. The table show the cost for different size bags of Timothy Hay for rabbits.

Store	Bag Size	Cost (\$)
Petco	24 oz	\$3.99
PETSMART	40 oz	\$9.77
Walmart	96 oz	\$14.58



a. Determine the unit rate for each bag. Show all work.

b. Which bag is the best deal? Explain how you know.

---

---

8. At a park, 384 visitors rode the Merry-go-round in 2 hours. Write and solve a proportion to find the number of visitors, at this rate, who will ride the merry-go-round in 5 hours. Show all work.

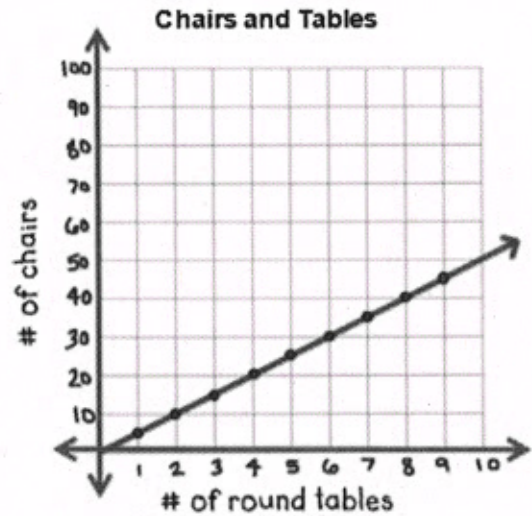
9. Ava rode her bike  $2\frac{1}{2}$  miles in  $\frac{1}{4}$  hour. How many miles per hour does Ava ride her bike? Show all work.

10. Mrs. Camidge bought 8 packs of colored pencils for her classroom for a total of \$31.92. She later realized she needed 3 more packs of colored pencils. How much will the extra packs of pencils cost? Show all work.

11. The graph shows the number of chairs and tables needed for a party.

a. Find the unit rate. Show work.

b. Use the unit rate to write the equation of this line.





Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 6 Review

Period \_\_\_\_\_

---

Read each problem carefully. Show work & a formula for each problem.

1. Sarah sold a blender that cost \$78.55. If she earns a commission rate of 4% of her total sales, how much will she earn from the sale of the blender?
  - a. \$314.20
  - b. \$31.42
  - c. \$3.14
  
2. Bobby had 60 cars in this matchbox car collection. He took them to the beach and buried them in the sand. When it was time to leave, Bobby could only find 24 of his cars. What is the percent of change to the nearest whole percent in Bobby's car collection?
  - a. 60% increase
  - b. 150% increase
  - c. 60% decrease
  - d. 150% decrease
  
3. Sammy expected to get \$60 for his birthday. He only got \$45. What is his percent error to nearest whole percent?

---

  - a. 25% error
  - b. 33% error
  - c.  $33.\bar{3}$ % error
  - d. 34% error
  
4. Adele borrowed \$2,000 from the bank at a 9% simple interest rate. If she pays the loan back in 6 months, how much will she have paid in total?
  - a. \$90
  - b. \$1,170
  - c. \$2,090
  - d. \$9,090

5. The original price of a pair of wireless earbuds was \$125. They are on sale for \$81.25. What is the percent of discount?
6. A store paid \$32 for a pair of Converse sneakers. They marked the price up 45%. What is the selling price of the sneakers?
7. You are shopping for a cell phone. The phone you want is on sale at Verizon for \$350. The same model costs \$380 at Sprint and is on sale for 15% off. Which store is offering the better deal? Show all work and explain your answer.



Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 7A Review

Period \_\_\_\_\_

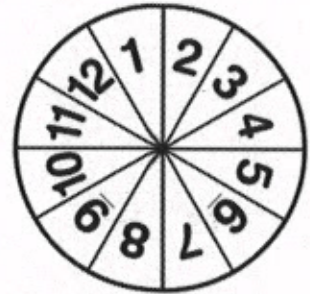
Read each problem carefully. Show all work.

You spin the spinner once. Find the theoretical probability of the event.

1. Spinning an even number

2. Not spinning a 9

3. Spinning a number less than 4

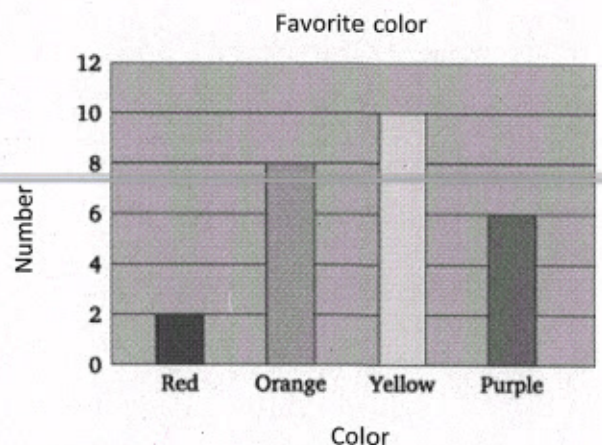


You asked 26 people what their favorite color is and recorded the results. Use the graph to find the experimental probability of the event.

4. Choosing red as their favorite

5. Choosing orange or yellow as their favorite

6. Not choosing red as their favorite



7. A food inspector chooses 12 eggs to inspect. Of the 12 eggs, the inspector found 2 to be rotten.

a. What is the experimental probability that an egg inspected will be rotten?

b. How many eggs out of 96 would you expect to be rotten?

8. Draw a tree diagram to find the sample space and the total number of possible outcomes.

**Picnic Meal**

Food	Hamburger, Sausage, Chicken
Drink	Lemonade, Water, Iced Tea



9. Use the Fundamental Counting Principle to find the total number of possible subs you can create if you choose one bread, one meat, one veggie, one cheese, and one condiment.

Bread	White, Wheat, Garlic, Rye
Meat	Ham, Salami, Turkey, Roast Beef, Meatball
Veggies	Lettuce, Tomato, Pickles, Olives, Peppers, Onions
Cheese	American, Swiss, Provolone, Cheddar
Condiments	Mayo, Mustard, Oil, Special Sauce

You roll a number cube once and choose a letter in the word "vacation". Find the probability of the compound event.

---

10. Rolling an odd number and choosing a vowel



11. Rolling a 2 or 3 and choosing a "c"

12. Rolling a number greater than 5 and choosing a "t" or an "n".

13. You have been assigned a special log in for the computer. The first place in your log in is the first letter of your last name followed by 5 digits. How many log ins are possible if the digits can be used more than once?

---

14. A fruit basket contains 4 oranges, 3 bananas, and 5 apples. You randomly choose one piece of fruit, then without replacing it, your friend selects a piece of fruit. What is the probability that both of you choose a banana?

---

15. Line 1 of your hockey team which includes a goalie, 2 defensemen, and 3 offensive players are lining up on the blue line for the playing of the National Anthem. Find the total number of ways the players can stand on the blue line if the goalie is always first.





Name \_\_\_\_\_

Date \_\_\_\_\_

Math 7 - Unit 7B Review

Period \_\_\_\_\_

1. Mrs. Rutherford wants to determine which class students in the school like the most. She chooses students to survey. Which of the samples below is a random sample?

- a. Choose the 50 students in choir.
- b. Choose every 10<sup>th</sup> student who enters school in the morning.
- c. Choose 50 students in PONY.
- d. Choose the 24 students in her first period math class.

2. Which of the following is an appropriate display to show the number of cars sold in the last 6 months?

- A. bar graph
- B. circle graph
- C. line graph
- D. histogram

Explain your answer: \_\_\_\_\_

\_\_\_\_\_

3. Which of the following is an appropriate display to show the total number of each color in a class set of colored pencils?

- A. bar graph
- B. circle graph
- C. line graph
- D. histogram

Explain your answer: \_\_\_\_\_

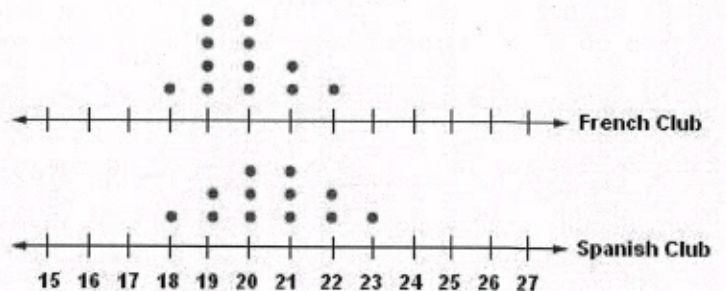
\_\_\_\_\_

4. Which can be determined for two populations from a dot plot?

- a. Mean
- b. Range
- c. Median
- d. All of the above

5. Two sets of data are graphed on the line plot. What observation can you make about the two data sets?

- a. Both have the same range.
- b. Both have a median of 20.
- c. Both have a minimum of 18.
- d. Both have a maximum of 23.



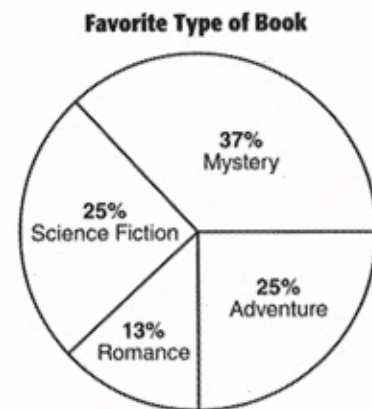
b



6. A recent survey of 220 students from Horseheads Middle School shows 3 out of 5 students participate in an afterschool activity.
- What is the population in the survey?
  - What was the sample for the survey?
  - If there are 650 students in Horseheads Middle School, predict how many students participate in an afterschool activity. **Show Work.**

7. The results of a survey asking teens their favorite type of book to read is shown in the graph.

Out of 250 teens, predict how many would choose Science Fiction as their favorite type of book to read.



8. Consider the following data sets

Set 1: 15, 25, 4, 15, 35, 4, 12, 20

Part A. Find the five-number summary for the data.

Minimum:            Maximum:            Median:            Q1:            Q3:

Part B: Make a dot plot of the data.

Part C: Make a box plot of the data.



Part D: Find each of the following. **Show Work.**

1. Mean: \_\_\_\_\_            2. Range: \_\_\_\_\_            3. IQR: \_\_\_\_\_

9. Jane gathered samples for the points scored for two basketball teams. The data is shown in the table below:

	Team A	Team B
Minimum:	45	49
Q1:	52	53
Median:	56	57
Q3:	64	63
Maximum:	70	72

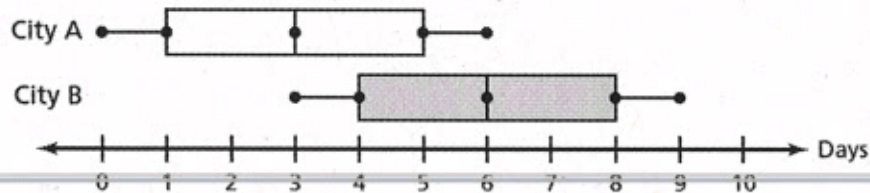
A. What is the total range for Team A?

B. What is the IQR for Team A?

C. What is the total range for Team B?

D. What is the IQR for Team B?

10. The double box-and-whisker plot shows the number of inches of snow per week in two cities in a 16-week period.



What can you conclude about the two groups?

- a. They have the same minimum.
- b. They have the same maximum.
- c. They have the same IQR.
- d. They have the same mean.

11. When is the mean is a misleading measure of the center of a set of numbers?



Name \_\_\_\_\_

Date \_\_\_\_\_

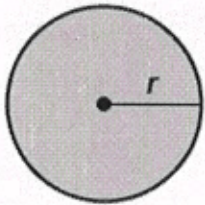
Math 7 - Unit 8 Review

Period \_\_\_\_

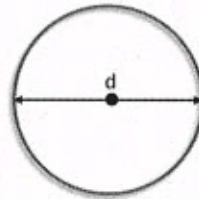
**Use pi button for  $\pi$ . Round answers to the nearest hundredth.**

**Write and solve an equation to find the missing dimension of the circle.**

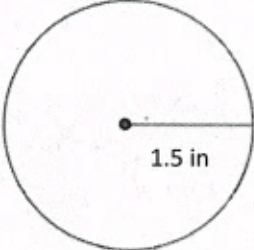
1. Diameter = 18 m  
Radius = ?



- Radius = 220 yd  
Diameter = ?



**Find the circumference AND area of the circle. State your answer in terms of  $\pi$ .**

2.  Circumference Area

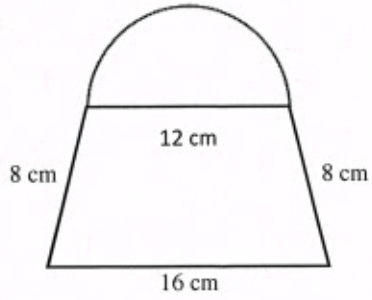
3. A coin has a circumference of about  $6\pi$  millimeters.

a. What is the radius of the coin?

b. What is the area of the coin?

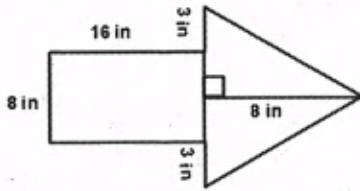
Find the perimeter OR area of the figures below.

4.



Perimeter

5.



Area

6. Find the area of the shaded region of the figure.

