

Dear Soon-to-be Eighth Graders,

Believe it or not, this math packet was NOT created to torture you, but instead to help prepare you for Math 8! There are 10 problems per page and 5 pages. I would suggest you spread it out over 5 weeks at 10 problems per week so that it's not as overwhelming. You may use a calculator throughout the packet. Have a terrific summer! I can't wait to see you in September!

In Christ, Miss Young
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1. Use the frequency distribution to find the average number of movies watched by students during one week. Round your answer to the nearest hundredth.

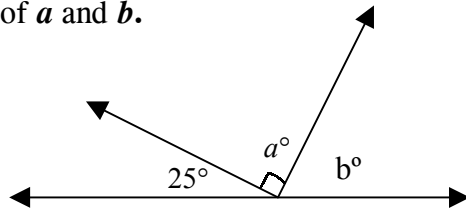
Movies Watched in a Week	Tally	Frequency
6		1
5		0
4		3
3	<del> </del>	8
2	<del> </del>	6
1		2
0		3

2. Michelle wants to listen to 5 compact discs. Two compact discs are each 51 minutes long and the other three compact discs are each 46 minutes long. How many hours and minutes will it take Michelle to listen to all 5 compact discs?

3. Find the values of a and b .

$m\angle a =$ _____

$m\angle b =$ _____



4. Fill in the missing numbers.

$$\frac{4}{7} = \frac{16}{35} = \frac{21}{140} = \frac{140}{140}$$

5. Marcela was assigned some math problems for homework. She answered half of them in study hall. After school she completed seven more. If she still has 11 problems to do, how many problems were assigned?

6. Using the pattern in the chart below, how much interest can someone earn on a \$200 deposit in a savings account?

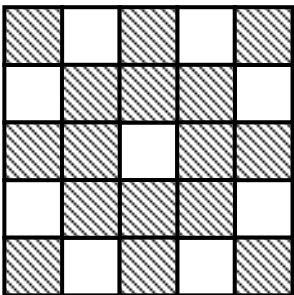
Deposit	\$20.00	\$40.00	\$60.00	\$80.00	\$100.00	\$120.00
Interest	\$1.50	\$3.00	\$4.50	\$6.00	\$7.50	\$9.00

7. What makes the set of integers different from the set of whole numbers?

8. Evaluate:

$$1^{20} + 10^3 =$$

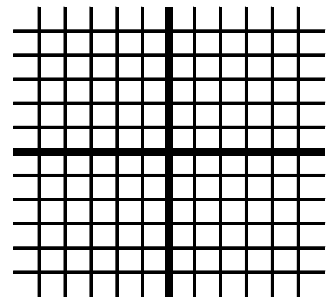
9. If a fly lands on one of the tiles of this floor, what is the probability that it will land on a shaded tile?



10. Complete the table and graph equation.

$$2x + 3y = 12$$

x	y
-3	
0	
	0
3	



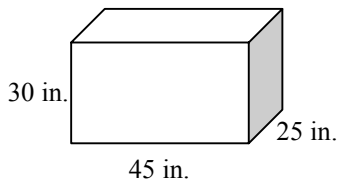
1. Fill in the blanks of the proportion to find 53% of 215. Then solve your proportion.

$$\frac{\quad}{\quad} = \frac{\quad}{\quad}$$

2. Order the given set of numbers from least to greatest:

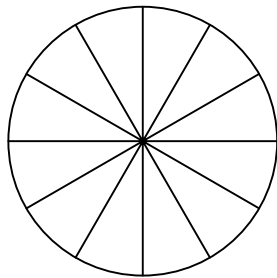
$$8, \sqrt{41}, 9, \sqrt{56}, \sqrt{65}, 6$$

3. Find the volume of the given rectangular prism.



4. The side lengths of a particular triangle are 12, 16, and 20. Is it a right triangle? Justify your response by using the converse of the Pythagorean Theorem.

5. Each of the 12 central angles in the circle is n degrees. Find n .



6. Use the following information to create a bar graph.

Several cases of weather-related crop damage were reported in Virginia over the last 10 years. 205 cases were due to excessive heat, 151 were the result of floods, 94 were attributed to lightning, 87 were because of tornadoes, and 31 were due to hurricanes.

7. Find the value of  in the following equation.

$$\triangle \cdot \triangle \cdot \triangle \cdot \triangle = 256$$

8. When Corey added $4821 + 5416 + 4633 + 5221$ on his calculator, he obtained the sum 15,386. Without using a calculator, estimate the sum to see whether his solution is reasonable.

9. Tell whether each given statement is true “always,” “sometimes,” or “never.”

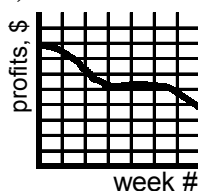
a. a rational number is an integer

b. an irrational number is a real number

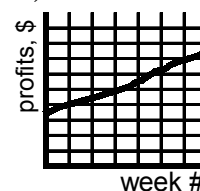
c. a rational number is an irrational number

10. Which graph below shows a consistent growth in profits made from video rentals over 6 weeks?

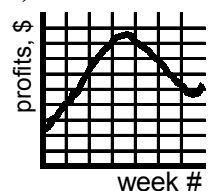
a.)



b.)



c.)



Explain your choice.

1. Solve the equation for K:

$$K + \frac{2}{3} = \frac{8}{9}$$

2. Evaluate

$$5a + 6b - c$$

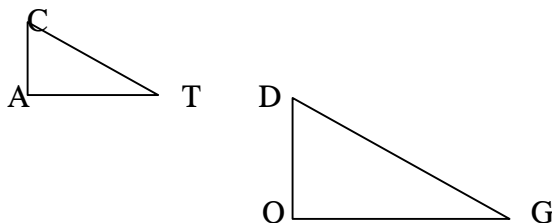
if $a = 5$, $b = 6$, and $c = 4$.

3. Add the matrices.

$$\begin{bmatrix} 2.1 & 4.1 \\ 6.0 & 1.3 \end{bmatrix} + \begin{bmatrix} 3.2 & 2.1 \\ 4.4 & 6.2 \end{bmatrix}$$

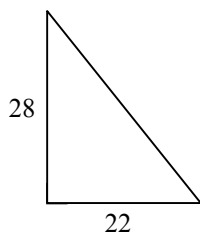
4. Triangle CAT is **similar** to triangle DOG.

If $CA = 4$, $AT = 6$, and $DO = 6$, write and solve a proportion to find OG.



5. Use the area formula for a triangle to compute the area of the triangle shown:

$$A = \frac{1}{2}bh$$



6. Find the mean, median, and mode of the set of numbers: 6, 7, 11, 5, 8, 7, 4, 13, 11, 2.

7. Name the set or sets of numbers to which each of the following real numbers belong (natural, whole, integer, rational, irrational).

a.) 12

b.) $\frac{3}{8}$

c.) $\sqrt{11}$

8. If $n = 7$, evaluate:

$$1 + n^2$$

9. What percent of the boxes have x's in them?

x	x			x		x	x
			x	x			
	x	x			x	x	
x				x	x		

10. To print T-shirts you need to pay once for the screen to be made and then a small fee for each shirt printed. If you have \$300, how many t-shirts could you have printed? Show how you know.

WE PRINT

screen...\$75
\$2.50/shirt

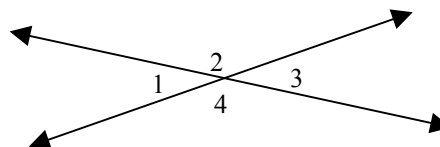
1. Evaluate: $5 - 3^2 + 18 \div 2$

2. Bill works at a local restaurant, earning \$300 per week. Today he was told that he will be given a raise of 10% starting next week. What will his new weekly salary be?

3. The Maple Car Rental Company charges a flat fee of \$45, plus \$1.00 per mile to rent a car. Use this information to calculate the cost in the table.

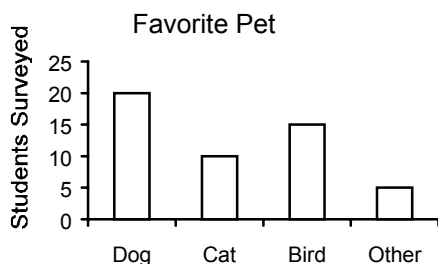
miles traveled	cost
25	
50	
75	
100	

4. Fill in the blanks below.



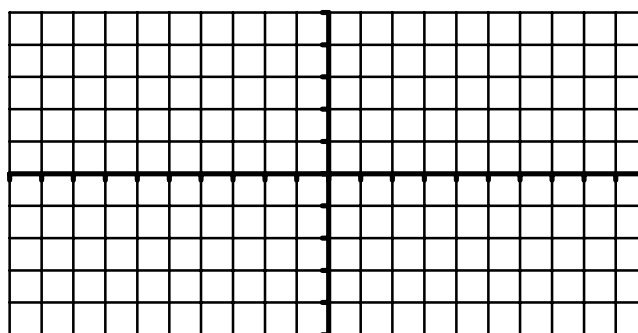
- a) $\angle 1$ and $\angle \underline{\quad}$ are a pair of vertical angles.
 b) $\angle 1$ and $\angle \underline{\quad}$ are a pair of supplementary angles.

5.



- a) How many students claim a cat as the favorite pet?
 b) How many students were surveyed?
 c) What percent of those surveyed chose a bird as their favorite pet?

6. Graph trapezoid BIRD with vertices B(1, 1), I(2,4), R(6, 4), D(7, 1). Draw its reflection across the x axis. Label its new coordinates.



7. Solve the equation. Show each step and check the solution: $\frac{x}{5} - 6 = -2$

8. Solve the equation. Show each step and check your solution: $7n - 11 = 73$

9. Order the numbers from least to greatest:

$\sqrt{91}$, 9, $\frac{79}{9}$, 9.0002

10. Evaluate: $6^2 + (4 \cdot 3)^2 - 4^3$

1. Evaluate:

a) $3\frac{1}{2} + 4\frac{2}{3}$

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

2. Check all that apply:

	Real Number	Rational Number	Integer	Whole Number	Natural (Counting)
-6					
$2.\overline{3}$					
$1/2$					
19					
$\sqrt{2}$					
0					

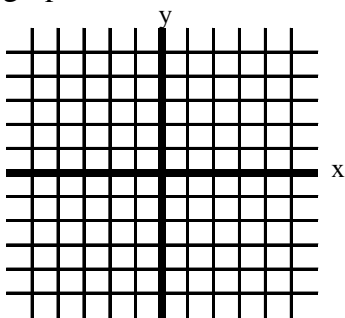
3. Evaluate $2x + 3y^2$ if $x = -4$ and $y = 5$.

4. Cindy multiplied her age by 5, subtracted 12, and then divided by 3. The result was 16. How old is Cindy?

5. Complete the table and graph the linear function.

$y = 2x - 1$

x	y
-2	
-1	
0	
1	
2	



6. A jar contains 15 colored balls. 3 of the balls are red, 4 are white, 5 are blue, and 3 are orange. If you reach into the jar randomly and remove one ball, what is the probability that its color will be: (Round to the nearest percent.)

a) white? _____ b) either orange or red? _____

c) green? _____ d) anything but blue? _____

7. Name the property illustrated by each equation:

a) $3(1000 - 1) = 3000 - 3$ _____

b) $(4 \cdot 3) \cdot 7 = 4 \cdot (3 \cdot 7)$ _____

c) $8 + 20 = 20 + 8$ _____

d) $x + 0 = x$ _____

8. If it takes 8 hours to drive 435 miles, how many hours would you expect it would take to drive 650 miles if you travel at the same rate? (Round to hundredths.)

9. You are on the 8th grade dance committee and in charge of purchasing the refreshments. Chips cost 79¢ a bag and sodas cost 99¢ a bottle. If you are asked to buy 12 bags of chips and 25 sodas, and you are given \$35, calculate whether or not that will be enough money. (Do not include sales tax.)

10. Find $A + B$.

$A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$

$B = \begin{bmatrix} 3 & 2 \\ 5 & 4 \end{bmatrix}$