

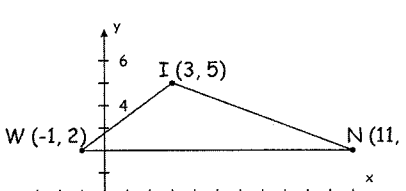




Warm-Up 3

1. _____ Thirty percent of twice a number is 30. What was the original number?
2. _____ inches A bouncy ball bounces 16 feet high on its first bounce and exactly half as high on the next bounce. For each later bounce, the ball bounces half as high as on the previous bounce. How many inches high does the ball bounce on its seventh bounce?
3. \$ _____ Tamika's dad bought a Mustang convertible for \$12,000 to celebrate his first job in 1978, which paid him \$15,000 a year. If Tamika is to use the same fraction of her salary as her dad to buy a Mustang convertible, which now sells for \$32,000, what will her first job have to pay?
4. _____ A rectangular prism has dimensions 4 by 6 by x . If the total surface area of the prism is 248 square units, what is the value of x ?
5. _____ ways How many ways can the letters in FACTOR be rearranged so that the first and last letters are vowels?
6. _____ If $a \# b = (a + b)^2$, what is the value of $3 \# 1$?
7. _____ The triangular array of positive integers shown continues indefinitely, with each row containing one entry more than the row above it. What is the sum of the two integers directly above 100?

4				
7	10			
13	16	19		
22	25	28	31	
34	37	40	43	46
8. _____ points In a class of 20 students, the average (arithmetic mean) score on a test is 84 points. If 6 students each scored 100 points and 4 students each scored 50 points, what is the average of the scores of the remaining students?
9. _____ If $\frac{a-2b}{3a-4b} = 5$, what is the ratio of a to b ? Express your answer as a common fraction.
10. (,) If triangle WIN is reflected over the x -axis to create triangle W'IN', what will be the coordinates of point I? Express your answer as an ordered pair.



Warm-Up 4

Potato Chip Prices

15	9	Key 15 9 means \$1.59
16	9	
17	5 9	
18	8 9	
19	9 9 9 9 9	
20	9	
21	5 5 8 9	
22	5 9 9	
23	9	
24		
25	9	

11 1. _____ bags

A survey of the cost of one-pound bags of potato chips at five local supermarkets is shown in the stem-and-leaf plot. How many bags of chips cost less than the median price of a bag of chips?

12. _____ more rap songs

Vivian has 45 songs on her MP3-player, 15 of which are alternative rock and the rest of which are rap. Malik has 60 songs on his MP3-player in the same ratio as Vivian's songs. How many more rap songs does Malik have on his MP3-player than Vivian has on hers?

13. _____ pckgs

Lashae will plant pansies and violets around the edge of her garden. She must use the same number of each plant, and she must use all of the flowers she buys. If pansies are sold in packages of 6 and violets are sold in packages of 10, what is the least number of packages of violets she could buy, given that she buys at least 1 package?



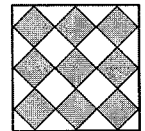
14. _____

$$\begin{array}{c}
 1 \\
 1 \ 1 \\
 1 \ 2 \ 1 \\
 1 \ 3 \ 3 \ 1
 \end{array}$$

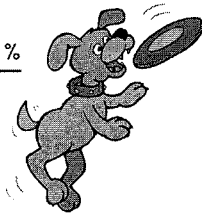
The first four rows of Pascal's triangle are shown to the left. If the first two numbers in a particular row of Pascal's triangle are 1 and 10, what is the fourth number of the next row?

15. _____

In the figure, the gray small squares and the white small squares are all the same size, and the outer corners of the outer gray squares lay on the edge of the largest square. What fraction of the largest square is shaded? Express your answer as a common fraction.



16. _____ %



Last July there were 56 dogs for sale in the newspaper ads, and this July there were 84 dogs for sale. What is the percent increase in the number of dogs for sale?

17. _____

What is the value of the expression $3x + 4y^3$ if $x = 3$ and $y = -2$?

18. _____ units

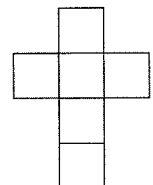
Points A, B and C are collinear, with B between A and C. If the distance from point A to point B is 8 more than twice the distance from point B to point C, and the length of segment AC is 5 times the length of segment BC, how long is segment AC?

19. _____

The sum of two numbers is 3 times their positive difference. What is the ratio of the smaller number to the larger number? Express your answer as a common fraction.

20 10. _____ units³

The net shown is composed of 6 congruent squares and has a perimeter of 56 units. When the net is folded into a cube, what is the volume of the cube?

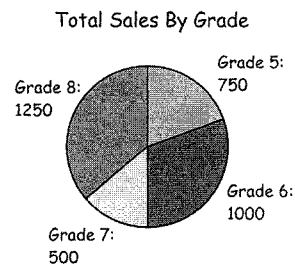




Warm-Up 5

2 | 1. _____ If Minh picks a letter of the alphabet at random, what is the probability it occurs in the name "Hattiesburg, Mississippi"? Express your answer as a common fraction.

2.2. _____ % The graph shows the amount of sales made by each grade at Memorial Middle School in the annual fundraiser. What percent of the total sales was made by the Grade 7 class? Express your answer to the nearest tenth.



2.3. _____ What is the integer value of $0 - 5 + 10 - 15 + 20 - 25 + 30 - \dots + 240$?

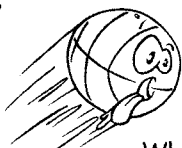
2.4. _____ In this additive magic square the sum of the three numbers in each row, in each column and along each diagonal is the same. What is the value of z ?

		z
11	6	
		10

2.5. _____ sq units What is the area of the quadrilateral with vertices at (1, 1), (4, 1), (7, 5) and (4, 5)?

2.6. _____ If $a \# b = a^b - b^a$, what is the value of $3 \# 5$?

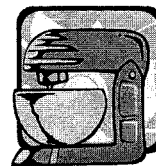
2.7. _____ %



Coach Kennedy had the starters of his basketball team practice free throws. Each player had to shoot 20 free throws. On Wednesday, 4 of the 5 starters did the free throw drill and averaged making 15 out of 20 attempted baskets. When the fifth starter did his drill, the team average dropped to 14 made out of 20 attempted. What percent of his free throws did the fifth starter make?

2.8. _____ ft per sec William is traveling at a rate of 75 miles per hour. How fast is William traveling in feet per second?

2.9. _____ pounds To create a more affordable line of her gourmet chocolates, Kindra mixes 10 pounds of chocolate worth \$1.50 per pound with another type of chocolate, worth \$9.00 per pound. She wishes to make a mixture of chocolate worth \$4.00 per pound. How many pounds of the \$9.00 chocolate must she add to create her new product?



30 | 10. _____ inches A solid is formed by placing a square pyramid with a base of 3 inches by 3 inches on top of a cube with edges of 3 inches. The volume of this combined solid is 54 cubic inches. What is the height of the pyramid?