Warm-Up 6
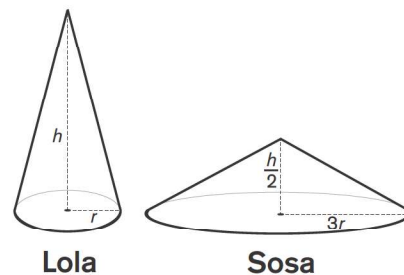
81. _____ A list of four positive integers has a median of 5. What is the least possible mean of the list?

82. _____ If $x + x^2 = 6$, what is the least possible value of integer x?

83. _____ minutes A bathtub has a faucet that fills it completely in 10 minutes and a drain that empties it completely in 15 minutes. The bathtub is currently half full. If the drain is open while the faucet is on, how long will it take to fill the tub completely?

84. _____ Anu randomly cuts a ribbon of length 14 inches into two pieces. What is the probability that the difference in length between the two pieces is 3 inches or less? Express your answer as a common fraction.

85. _____ Matt and his friend Matics order a pizza that is $\frac{2}{3}$ vegetarian and $\frac{1}{3}$ pepperoni. Matt eats $\frac{1}{4}$ of the vegetarian part of the pizza and $\frac{2}{3}$ of the pepperoni part. Matics eats $\frac{2}{3}$ of the vegetarian part of the pizza and $\frac{1}{4}$ of the pepperoni part. How much of the pizza is left? Express your answer as a common fraction.

86. _____ A cyclist has completed two-thirds of his route when he gets a flat tire. He walks the rest of the way and spends twice as much time walking as he did riding. How many times as fast does he ride his bicycle as he walks?

87. _____ Let $f(x) = \sqrt{x+1}$ and $g(x) = x^2 + 1$. What is $g(f(8))$?

88. _____ Lola and Sosa are making cones out of clay in their art class. Sosa's cone has a radius that is three times that of Lola's cone and a height that is half that of Lola's cone. What is the ratio of the volume of Sosa's cone to the volume of Lola's cone? Express your answer as a common fraction.

Lola   Sosa

☆ 89. _____ clanks If 6 clanks are in 1 clink and 12 clinks are in 9 clonks, how many clanks are in 1 clonk?

☆ 90. _____ Two fair standard six-sided dice are rolled. What is the probability that the number showing on one of them is twice the number showing on the other? Express your answer as a common fraction.