Application of Percent

1. A basketball player successfully makes 88 out of 105 free throws. What is the players successful free throw percentage?

2. The student population at a community college is 59% female. If the student population is 32,342 students, how many students are female? How many students are male?

3. How much ammonia is in a 80 ml bottle of ammonia solution that is marked 35% ammonia? How much water is in the solution.

4. At a community college 28% of a graduating class took chemistry. If 427 students from this graduating class took chemistry, how many students are in this graduating class?

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1. A basketball player successfully makes 88 out of 105 free throws. What is the players successful free throw percentage?

(A Percent) of (a total) is (a portion)

$$x \cdot 105 = 88$$

$$\frac{105x}{105} = \frac{88}{105}$$

$$x = 0.8381$$

$$\boxed{x = 83.81\%}$$

2. The student population at a community college is 59% female. If the student population is 32,342 students, how many students are female? How many students are male?

(A percent) of (a total) is (a portion)

$$0.59 \cdot 32{,}342 = x$$

$$(0.59)(32{,}342) = x$$

$$19{,}081.78 = x$$

$$\boxed{19{,}082 = x}$$

Rounded to nearest whole number.

$\boxed{19{,}082 \text{ females}}$

3. How much ammonia is in a 80 ml bottle of ammonia solution that is marked 35% ammonia? How much water is in the solution.

(A percent) of (a total) is (a portion)

$0.35 \cdot 80 = x$

$(0.35)(80) = x$

$28 = x$

Therefore of the 80 ml of solution, 28 ml is ammonia! So to get the amount of water we subtract 28 from 80!

$80 - 28 =$ **52 ml of water!**

4. At a community college 28% of a graduating class took chemistry. If 427 students from this graduating class took chemistry, how many students are in this graduating class?

(A percent) of (a total) is (a portion)

$0.28 \cdot x = 427$

$\frac{0.28x}{0.28} = \frac{427}{0.28}$

$x = 1525$ total students!