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PERCENT

2005A 1. **(D)** Since Mike tipped $2, which was $10\% = 1/10$ of his bill, his bill must have been $2 \cdot 10 = 20$ dollars. Similarly, Joe tipped $2, which was $20\% = 1/5$ of his bill, so his bill must have been $2 \cdot 5 = 10$ dollars. The difference between their bills is therefore $10.

2007A 1. **Answer (C):** Susan pays $(4)(0.75)(20) = 60$ dollars. Pam pays $(5)(0.70)(20) = 70$ dollars, so she pays $70 - 60 = 10$ more dollars than Susan.

2005B 2. **(D)** We have

$$\frac{x}{100} \cdot x = 4, \quad \text{so} \quad x^2 = 400.$$

Because $x > 0$, it follows that $x = 20$.

2010B

2. **Answer (C):** Makayla spent $45 + 2 \cdot 45 = 135$ minutes, or $\frac{135}{60} = \frac{9}{4}$ hours in meetings. Hence she spent $100 \cdot \frac{9/4}{9} = 25$ percent of her time in meetings.

2018A

2. **Answer (A):** Let L, J, and A be the amounts of soda that Liliane, Jacqueline, and Alice have, respectively. The given information implies that $L = 1.50J = \frac{3}{2}J$ and $A = 1.25J = \frac{5}{4}J$, and hence $J = \frac{4}{5}A$. Then
$$L = \frac{3}{2} \cdot \frac{4}{5}A = \frac{6}{5}A = 1.20A,$$
so Liliane has 20% more soda than Alice.

2000

3. **Answer (B):** Since Jenny ate 20% of the jellybeans remaining each day, 80% of the jellybeans are left at the end of each day. If x is the number of jellybeans in the jar originally, then $(0.8)^2 x = 32$. Thus $x = 50$.

2009B

5. **Answer (D):** Twenty percent less than 60 is $\frac{4}{5} \cdot 60 = 48$. One-third more than a number n is $\frac{4}{3}n$. Therefore $\frac{4}{3}n = 48$, and the number is 36.

2012B

5. **Answer (B):** The number of female adult cats was 50, and 25 of those were accompanied by an average of 4 kittens each. Thus the total number of kittens was $25 \cdot 4 = 100$, and the total number of cats and kittens was $100 + 100 = 200$.