Quiz 1. *True/False*: The product $57(1.08)$ can be interpreted either as both finding 8% of 57 and increasing 57 by 8%.

Solution. The statement is *false*. To find a percentage % of a number N, we compute $N \cdot \%_d$, where $\%_d$ is the percentage written as a decimal. But then finding 8% of 57 is $57(0.08)$, not $57(1.08)$. The product $57(1.08)$ would represent finding 108% of 57. To find the result of a number N increased or decreased by a percentage %, we compute $N(1 \pm \%_d)$, where $\%_d$ is the percentage written as a decimal, and we choose '+' if a percentage increase and '−' if a percentage decrease. But then to compute 57 increased by 8%, we compute $57(1 + 0.08) = 57(1.08)$, as stated in the quiz. Therefore, the quiz statement is false.

Quiz 2. *True/False*: Your GPA after the end of your Freshman year (30 credits) was 3.217. If you took 16 credits in the Fall of your Sophomore year and had a semester GPA of 3.615, then your current GPA is $\frac{30(3.217)+16(3.615)}{30+16} = \frac{154.35}{46} \approx 3.355$.

Solution. The statement is *true*. To compute ones new GPA, one computes. . .

$$\text{Overall GPA} = \frac{\text{Previous Credits} \cdot \text{Previous GPA} + \text{Semester Credits} \cdot \text{Semester GPA}}{\text{Total Credits}}$$

$$= \frac{30 \cdot 3.217 + 16 \cdot 3.615}{30 + 16}$$

$$= \frac{96.51 + 57.84}{30 + 16}$$

$$= \frac{154.35}{46}$$

$$\approx 3.355$$

Quiz 3. *True/False*: The distance between the points $(4,3)$ and $(-1,6)$ is $\sqrt{(-1-4)^2 + (6-3)^2} = \sqrt{(-5)^2 + 3^2} = \sqrt{25+9} = \sqrt{34} \approx 5.83095$.

Solution. The statement is *true*. The distance between two points (x,y) and (a,b) is $d = \sqrt{(x-a)^2 + (y-b)^2}$. But then taking $(x,y) = (-1,6)$ and $(a,b) = (4,3)$, we have. . .

$$d = \sqrt{(-1-4)^2 + (6-3)^2} = \sqrt{(-5)^2 + 3^2} = \sqrt{25+9} = \sqrt{34} \approx 5.83095$$

Quiz 4. *True/False*: A 10 ft $\times$ 10 ft $\times$ 20 ft container is filled with 500 ft^3 of syrup. More syrup is flowing in at a rate of 40 ft^3 per minute. Because the volume is $10 \cdot 10 \cdot 20 = 2000$ ft^3, the time it will take to fill the container is $t = \frac{2000 \text{ ft}^3}{40 \text{ ft}^3/\text{min}} = 50$ min.

Solution. The statement is *true*.

Quiz 5. *True/False*: Alice and Bob and start at the same location. Alice travels north at 3 mph and Bob travels east at 4 mph. Two hours later, Alice has traveled 3 mph $\cdot$ 2 hr $= 6$ mi, Bob has traveled 4 mph $\cdot$ 2 hr $= 8$ mi, and Alice and Bob are 6 mi $+$ 8 mi $= 14$ mi apart.

Quiz 6. *True/False*: If $f(x) = 5x - 4$ and $g(x) = 6x$, then $(f \circ g)(2) = f(2) \cdot g(2) = 6 \cdot 12 = 72$.