

# CALCULATOR TIPS (MAY 2019)

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1. The size of the floopa increased from 600,600 to one million. Calculate the percent increase in the size of the floopa.

$$2 = \underline{\hspace{2cm}} \%$$

$$\text{Percent increase} = \frac{\text{New} - \text{Old}}{\text{Old}} \times 100$$

$$= \frac{1,000,000 - 600,600}{600,600} \times 100 = 66.5$$

HP35S :

2. Find the perimeter of a regular hexagon if the distance from the center to a vertex is 50250.

$$4 = \underline{\hspace{2cm}}$$

If all of the diagonals of a hexagon are drawn, six congruent equilateral triangles are formed. The distance from the center to a vertex is equal to the length of one of the sides of the equilateral triangle. To find the perimeter of the hexagon multiply that distance by 6.

$$6 \times 50250 = 3.02 \times 10^5$$

3. The sum of two positive integers is 1026. Their difference is 490. Calculate the value of the larger integer.

$$x - y = 490$$

Solve this system of equation using the elimination system.  
Add the two equations together.

$$2x = 1516 \quad ; \quad x = 758 \quad ; \quad 758 - y = 490 \quad ; \quad y = 268$$

Larger integer is 758.

4. Calculate the probability of rolling a sum of eight on a standard pair of dice.

$$8 = \underline{\hspace{2cm}}$$

$$\text{Probability} = \frac{\text{Favorable}}{\text{Total Outcomes}}$$

There are 5 ways to get a sum of 8.

$$\text{Solution} : \quad \frac{8}{36} = .222$$

5. A plane can travel 2460 miles in 6 hours with the wind. Flying against the same wind, the same trip takes 6.85 hours. Calculate the rate of the wind in miles per hour.

$$10 = \underline{\hspace{2cm}} \text{ mph}$$

Distance	Rate	Time
With 2460	R + W	6
Against 2460	R - W	6.85

$$6R + 6W = 2460 \quad ; \quad 6R - 6W = 4110$$

$$6.85R - 6.85W = 2460$$

$$-6.85R - 6.85W = -6.85(410)$$

$$6.85R - 6.85W = 2460$$

$$-13.7W = -6.85(410) + 2460$$

$$W = \frac{-6.85(410) + 2460}{-13.7} = 25.4$$