

CALCULATOR APPLICATION TIPS (AUGUST 2017)

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1. Sandy went out to dinner with a friend and their meals cost a total of \$45.22. Calculate the amount they paid if they also included a 15% tip.

$$1 = \$ \underline{\hspace{10em}}$$

$$1.15(45.22) = \$52.00$$

2. A rectangle measures 87 feet by 37 feet. Calculate the radius of a circle that has the same area as the rectangle.

$$2 = \underline{\hspace{10em}} \text{ sq. ft}$$

Area of a circle = πr^2 ; Area of a rectangle = LW

$$\pi r^2 = (87)(37) ; r^2 = \frac{(87)(37)}{\pi} ; r = \sqrt{\frac{(87)(37)}{\pi}} = 32.0$$

3. Twenty-two members of the Math/Science Association met for a meeting. If every member shook hands with every other member once, calculate the number of handshakes at the meeting.

$$3 = \underline{\hspace{10em}} \text{ (INTEGER)}$$

$$\text{Rule : } \frac{n(n-1)}{2} ; \frac{(22)(21)}{2} = 231 \text{ (INTEGER)}$$

4. Find the surface area of a cube whose inner diagonal is 1.0209.

$$4 = \underline{\hspace{10em}}$$

$$\text{Surface area of a cube} = 2(\text{inner diagonal})^2$$

$$\text{S. A.} = 2(1.0209)^2 = 2.08$$

5. In a scalene triangle ABC, find a if the angle opposite a is 21° , and $b = 10067$ and the angle opposite b is 121° .

$$5 = \underline{\hspace{10em}}$$

Make a sketch depicting the information given. This problem will require the use of the Laws of Sines.

$$\frac{\sin A}{a} = \frac{\sin B}{b} \quad \text{or} \quad \frac{a}{\sin A} = \frac{b}{\sin B}$$

$$\frac{x}{\sin 21^\circ} = \frac{10067}{\sin 121^\circ} \quad ; \quad x = \frac{10067 \sin 21^\circ}{\sin 121^\circ} = 4210$$