Name: __Answer Key__   Date: _____
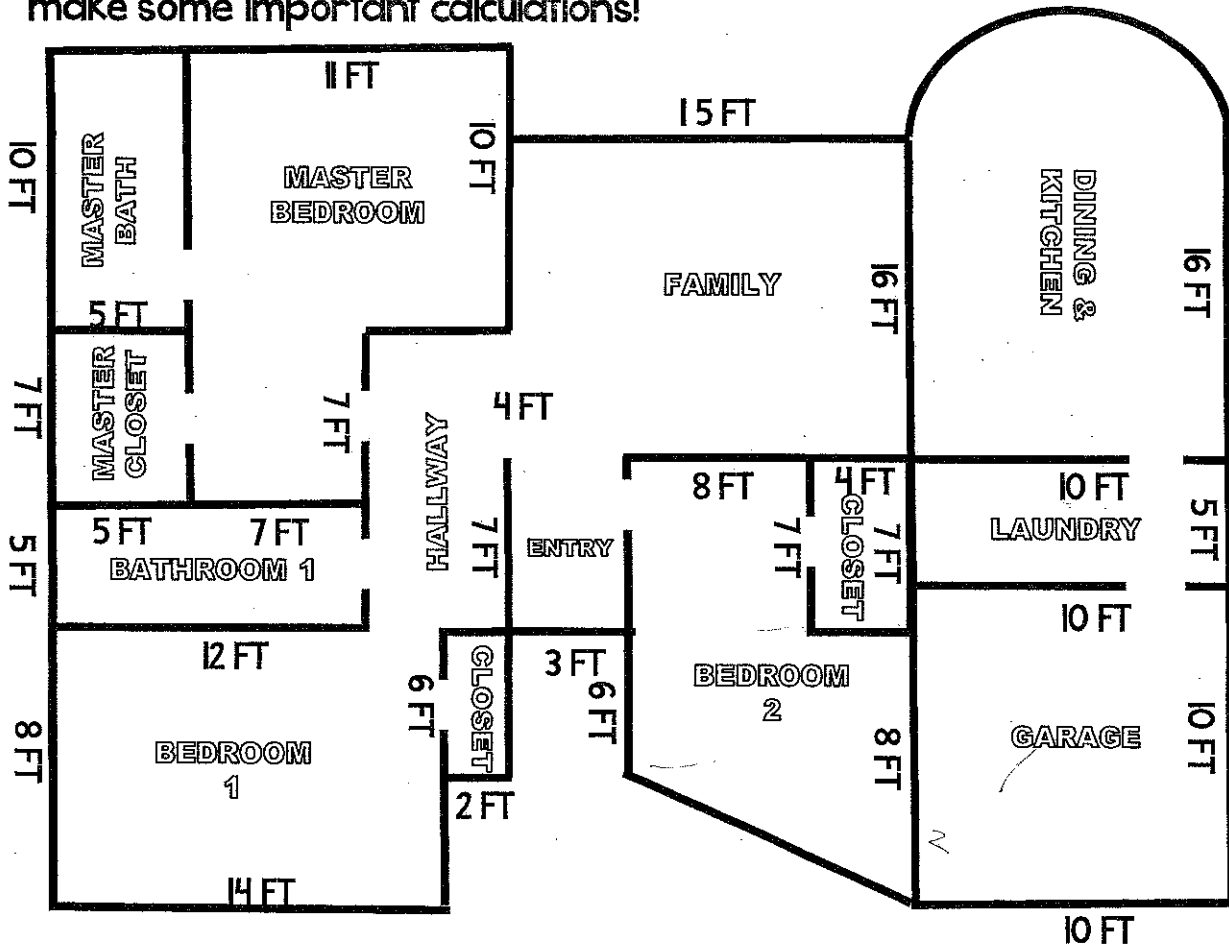
Real-Life Area of Composite Figures

Congratulations! You are the proud owner of a beautiful new home! Below is a blueprint of your house. Use the blueprint to help you make some important calculations!

Question 1: You are planning on putting new carpet into the master bedroom and the master closet. The price per square foot of the carpet is $1.34 per square foot. Determine how much you will need to pay for the carpet. Show your work in the space below:

$A_R = L \times W$ $A_S = S^2$ $A_R = L \times W$ $\text{Total Area} = 194\, ft^2$
$\quad = 11 \times 10$ $\quad = 7 \times 7$ $\quad = 7 \times 5$
$\quad = 110\, ft^2$ $+$ $= 49\, ft^2$ $+$ $= 35\, ft^2$

$\text{Cost} = 194\, ft^2 \times \$1.34$
$\quad = \$259.96$

Total Area of the Rooms: __194 ft²__

Total Cost of the Carpet: __$259.96__

Question 2: The kitchen and dining room need new tile. The cost of the tile is $2.87 per square foot. Calculate the total cost of the tile. Show your work in the space below (Use 3.14 for π):

$$A_R = L \times W$$
$$= 16 \times 10$$
$$= 160 \, ft^2$$

$$+ \left(\begin{array}{l} A_C = \pi r^2 \\ = 3.14 \times 5^2 \\ = 78.5 \, ft^2 \end{array} \right) \div 2 = 39.25 \, ft^2$$

Cost: $199.25 \, ft^2 \times \$2.87$

Total Area of the Rooms: __199.25 ft²__

Total Cost of the Tile: __$571.8475 = $571.85__

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Question 3: You are going to turn Bedroom 2 into your new office space. You would like to put new hardwood floors down. The cost of the hardwood is $3.05 per square foot. Calculate the total cost of the hardwood (Bedroom 2 only – NOT the closet). Show your work in the space below:

$$A_R = L \times W$$
$$= 6 \times 12$$
$$= 72 \, ft^2$$

$$+ \quad A_T = \frac{bh}{2}$$
$$= \frac{12 \times 2}{2}$$
$$= 12 \, ft^2$$

$$+ \quad A_R = L \times W$$
$$= 8 \times 7$$
$$= 56 \, ft^2$$

cost: $140 \, ft^2 \times \$3.05$

Total Area of the Room: __140 ft²__

Total Cost of the Hardwood: __$427.00__

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Question 4: The floors in the family room and entry need to be professionally cleaned. The cost of the cleaning company is $0.52 per square foot. Calculate the total cost to clean the floors. Show your work in the space below:

$$A_R = 15 \times 16$$
$$= 240 \, ft^2$$

$$+ \quad A_R = L \times W$$
$$= 3 \times 7$$
$$= 21 \, ft^2$$

cost: $261 \, ft^2 \times \$0.52$

Total Area of the Rooms: __261 ft²__

Total Cost of the Cleaning: __$135.72__

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Question 5: You have decided to paint one of the walls in the dining room blue. The shape of the wall is shown below. One gallon of the paint covers 50 square feet. The wall will need 2 coats of paint. How many gallons of paint would you need to paint the wall?

10 FT

15 FT

8 FT
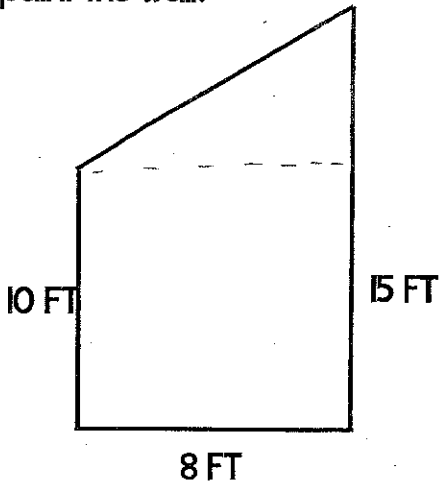
$$A_R = L \times W$$
$$= 10 \times 8$$
$$= 80 ft^2$$

$$+$$

$$A_T = \frac{bh}{2}$$
$$= \frac{8 \times 5}{2}$$
$$= 20 ft^2$$
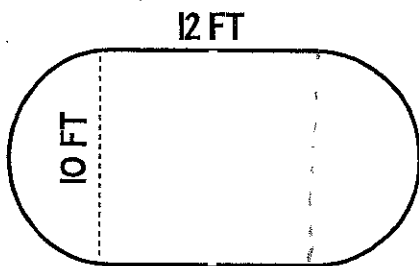
Paint: $100 ft^2 \div 50 ft^2$
$$= 2 \text{ Gallons/} coat$$

Total Area of the Wall: ___100 ft²___

Gallons of Paint Needed: ___4___

Question 6: In the backyard, you are planning on putting a small putting green to practice your golf skills. The shape of the putting green is shown below. If you want to put artificial grass down, what would the total cost of the turf be if each square foot is $3.15?

12 FT

10 FT

$$A_R = L \times W$$
$$= 12 \times 10$$
$$= 120 ft^2$$

$$+$$

$$A_C = \pi r^2$$
$$= 3.14 \times 5^2$$
$$= 78.5 ft^2$$

cost: $198.50 ft^2 \times \$3.15$

Total Area of the Putting Green: ___198.50 ft²___

Cost of Artificial Grass: ___$625.275 = $625.28___