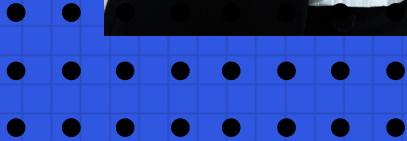
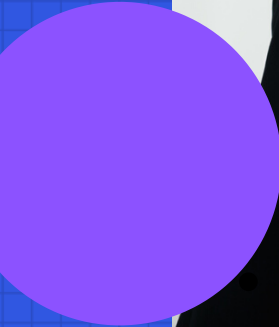
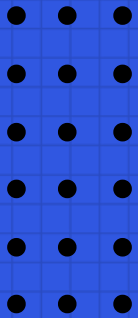


*Black Girl MATHgic presents...*  
**secure the bag (part II)**



**12TH ISSUE**  
**JUNE 2020**



**KEEP IT REAL**



*\*assume homes with no sign are occupied*



What fraction of the homes above have been sold? There are 9 homes total. Of those 9, 4 have "sold" signs on them. So  $\frac{4}{9}$  of the homes have been sold.



What fraction of the homes above are occupied? There are 9 homes total. Of those 9, 4 are occupied. So  $\frac{4}{9}$  of the homes are occupied.



If the answer is  $\frac{1}{9}$ , what could the question be?  
What fraction of the homes above are for sale?

# Home Sweet Home

**A family is in the market for a new home and they come to you for your real estate expertise! The family consists of 4 people (2 adults and 2 children). They also have a baby on the way. They want each child to have their own room. They also have a dog. They don't want to spend more than \$250,000, but are willing to go over that a little for the right home. Review each house on the previous page and discuss your recommendation below!**



Which house do you recommend for the family? Circle it above.

*This is up to your child's interpretation. More details below.*

List 2-3 factors that went into your decision. Why did you recommend that house for the family?

*This is up to your child's interpretation. Perhaps they picked House 1 because it fits the family's financial desires and had granite countertops. Perhaps they picked House 3 because it had a finished attic and wasn't too far out of their financial desires!*

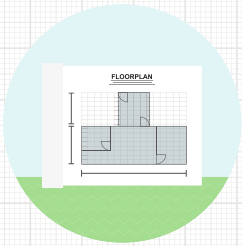
List 2-3 factors that went into your decision to NOT recommend the other 2 homes.

*This is up to your child's interpretation. One idea - they didn't pick House 2 because it didn't have the desired number of bedrooms for the family.*

# I'm Floored

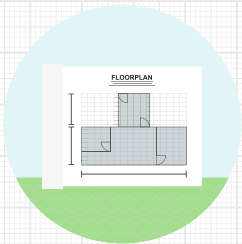
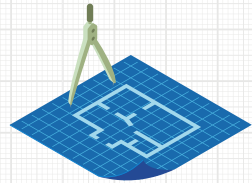
SEE ANSWERS BELOW + DRAWINGS ON FOLLOWING PAGE

Scale: One square on the graph paper = 1 foot.



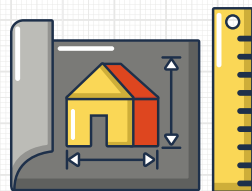
Draw a room that has a length of 6 feet and a width of \_\_\_ feet. (Fill in the blank with your favorite number between 2 and 5). What is the area? What is the perimeter? **Example on next page.**

Draw a square-shaped room that has an area of 25 square feet AND a perimeter of 20 feet. What is the length and width? **The sides of a square are all the same, so both the length and width are 5 feet.**

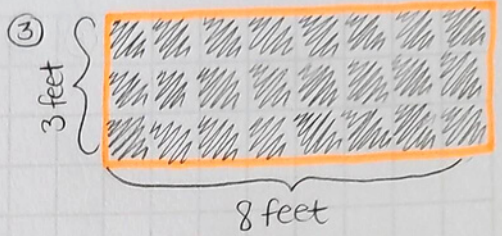
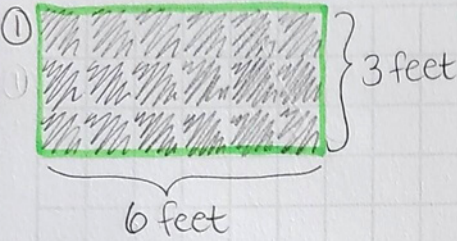


Your favorite room has an area of 24 square feet. What are two possible dimensions for this room? Draw them! **Possible dimensions = factors of 24 (because length x width = area of a rectangle): 1 x 24, 2 x 12, 3 x 8, 4 x 6 (see next page)**

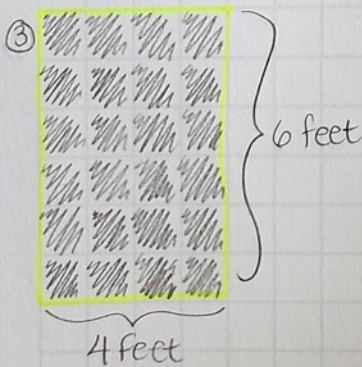
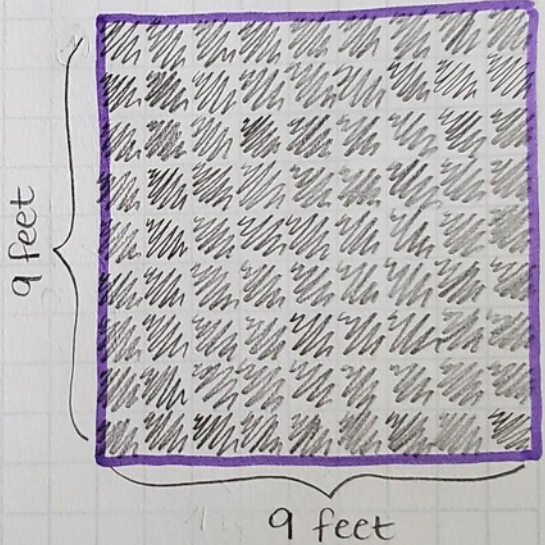
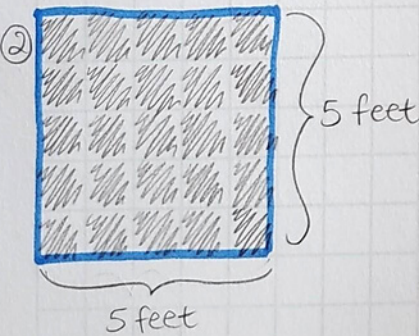
Another room is shaped like a square and has a perimeter of 36 feet. What is the length, width and area of the room? **Since it is a square, the sides are all the same. Thus, length and width = 9 feet, and area = 81 square feet.**



3



Perimeter: 24 feet  
Area: 18 feet<sup>2</sup>



Length: 9 feet  
Width: 9 feet  
Area:  $9^2$   
 $= 9 \times 9$   
 $= 81 \text{ feet}^2$

OR ↗



*#HomeownerLife*



I started with \$1,800



What happened?	Now I have:
Spent \$400 on a new dishwasher	\$1,400
Paid \$75/hour for 2 hours of landscaping work	\$1,250
Received \$1150 rent payment from tenant	\$2,400
Bought new patio furniture for the backyard - \$168	\$2,232

$$\begin{aligned}
 & \$75 \times 2 \\
 & = \$150
 \end{aligned}$$

Now, I have **\$2,232**.\*

*\*your number should be an even number that is divisible by 2, 4, 6 and 8*



# In The House with Sarabella

"Mathematics is everywhere. It shapes the whole world; from the shape of a stop sign, to the weight of bananas at the grocery store, numbers are literally everywhere. When you start to understand that and think about it in those terms, you're already wonderful at math."

1. Sarabella sells a house for \$100,000. Her commission, or payment for the sale of the house, is 6% ( $\frac{3}{50}$  in fraction form). How much did she make on the sale?

**Commission means she gets a percent of the sale of the house. "Percent of" tells me to multiply. Therefore,**

$$\begin{aligned} \$100000 \times \frac{3}{50} &= \$6,000 \text{ or} \\ \$100000 \times .06 &= \$6,000 \end{aligned}$$

**She made \$6,000 on the sale.**

2. Sarabella shows you a home that you love, but it has hardwood floors. After you move in, you decide to install carpet in your home office. If the home office is in a rectangular room that measures 16 feet along one wall and 12 feet along the adjacent wall, how many square feet of carpet would be required to cover the floor?

**Because I am covering the floor, I know I need to calculate area. Since the problem told me the room is rectangular, I will use the formula for area of a rectangle:  $a = l \times w$ , where  $l$  = length and  $w$  = width.**

$$a = l \times w$$

$$a = 16 \times 12$$

$$a = 192 \text{ square feet}$$

**I would need 192 square feet of carpet to cover the floor.**



# In The House with Sarabella

"Mathematics is everywhere. It shapes the whole world; from the shape of a stop sign, to the weight of bananas at the grocery store, numbers are literally everywhere. When you start to understand that and think about it in those terms, you're already wonderful at math."

3. If carpet is on sale for \$7.75 per square foot, about how much would it cost you to carpet the room from question #2?

The area of the room is 192 square feet, so "per square foot" means I need to multiply the cost of the carpet by the area of the room:

$$\$7.75 \times 192 = \$1,488$$

It would cost \$1,488 to carpet the room.

4. You sold your home for \$139,500, which was \$32,850 more than what you originally paid for it. What was your original cost for the home?

The problem is asking me to determine the "original cost" of the home, meaning I must figure out how much I paid for it *before* I sold it. I sold it for \$139,500, which was \$32,850 more than my original cost. This means I paid LESS for it. So, in order to find my original cost, I need to subtract \$32,850 from \$139,500.

$$\$139,500 - \$32,850 = \$106,650.$$

My original cost for the home was \$106,650. #SecureTheBag!



**Questions,  
comments,  
clarification?**

**Contact us today!**

**hello@blackgirlmathgicbox.com  
302-313-MATH**

**And don't forget to join us for our one-  
year anniversary & website launch  
party!**

**[bit.ly/bgmparty](https://bit.ly/bgmparty)**

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YOU'VE  
GOT THE  
POWER



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