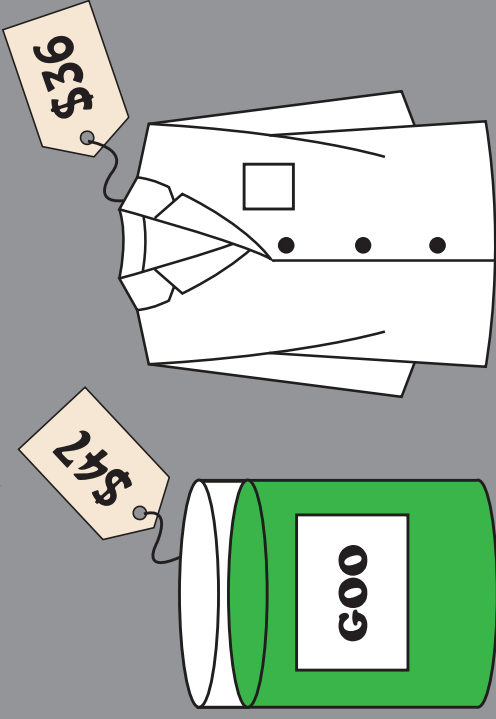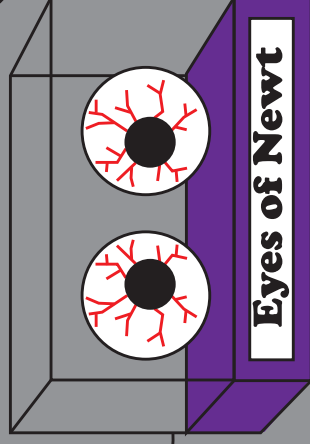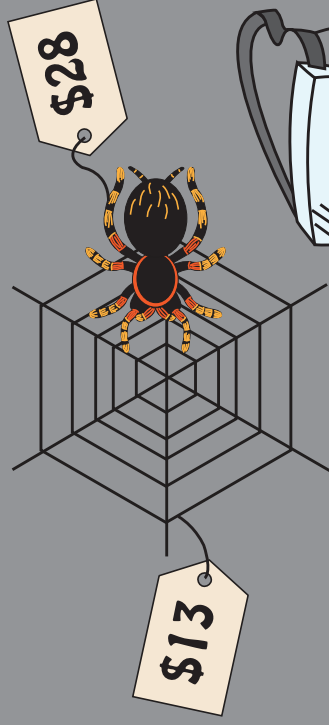# MAD SCIENTIST
Lab Liquidation Sale Today!

Dan bought the eyes of newt and the green goo in the hopes of starting his own mad science lab. He negotiated a 13% discount. How much did he pay? _____

Ella was excited to buy the giant lab rat. Dr. Dweezle told her that she would also need the bunsen burner to prepare the rats nightly dinner. He gave her a $7 discount. What percent off did Ella get? _____
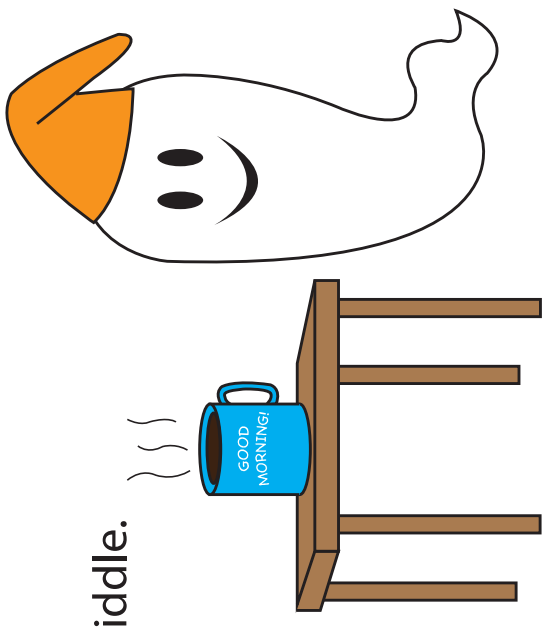
How much did Dr. Dweezle make on his sale? _____

Sydney bought the spider and the web, so Dr. Dweezle gave her a 15% discount. How much did Sydney pay? _____

Carter wants to buy the lab coat and safety goggles, but he only has $40.20. How much of a discount does Dr. Dweezle have to give him? _____

Kim needs new glassware for her lab. She picks up the test tubes and beakers and gets a $3 discount. What percentage off did Dr. Dweezle give her? _____

$36

$12

$47

GOO

$28

$13

Eyes of Newt

$67

$31

$23

$9

$15

Division Riddle

Solve the division problems and then use the code to solve the riddle.

2 r3=i	3=i	25 r1=-
17=b	9=r	11 r9=m
23 r12=e	7 r10=y	2 r41=u
13=o	31=f	

What does Spooky like to have for breakfast?

A cup of coffee and a

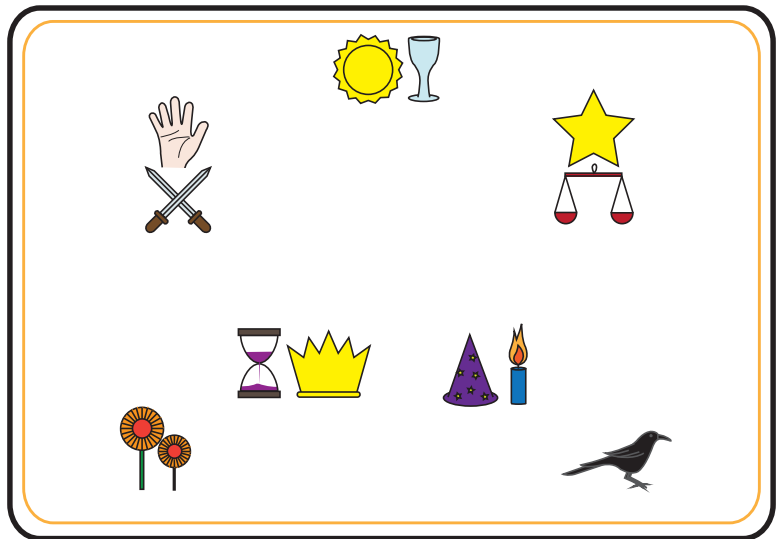| $53\overline{)901}$	$68\overline{)884}$	$27\overline{)351}$	$18\overline{)451}$	$41\overline{)697}$	$31\overline{)716}$	$72\overline{)648}$	$23\overline{)207}$	$19\overline{)143}$
b								

$$\begin{array}{r} 17 \\ 53\overline{)901} \\ \underline{53} \\ 371 \\ \underline{371} \\ 0 \end{array}$$

$36\overline{)405}$	$63\overline{)167}$	$25\overline{)775}$	$16\overline{)496}$	$98\overline{)294}$	$57\overline{)117}$

Mystical Multiplication

There are 6 pairs of matching Tarot Cards. Solve the equations and then draw a line connecting the symbols with matching answers in the key.
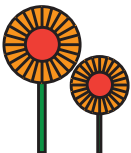
321
x 15

632
x 24

290
x 114

107
x 45

187
x 33

763
x 13

158
x 96

109
x 91

549
x 41

561
x 11

580
x 57

183
x 123

Conjuring up Expressions

In math, an expression is a sentence containing numbers and operations.
A variable is a letter that represents an unknown number in an expression.

Examples of expressions:

$4x$ $\qquad$ $8+7$ $\qquad$ $10y+3(y-2)$

$16-5$ $\qquad$ $\dfrac{62}{h}$ $\qquad$ $a-37$

*When a variable is next to a number, it means multiply. So $3x$ means 3 multiplied by x.

Read the sentences below and write an expression.

There are 17 bats flying through the haunted house. There are x times more bats in the caves behind the house. Write the multiplication expression for the number of bats in the caves.
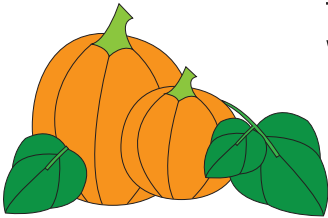
The number of bats in the house is 17
Times x
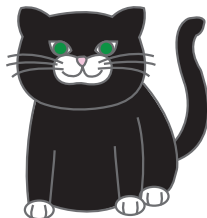The multiplication expression is $17x$

There are 64 pumpkins in the patch. They are divided into y equal groups. Write the division expression for the number of pumpkins in each group.

A witch's broomstick is 4 feet long. Belinda made hers m times longer to be able to carry more witches with her. Write the multiplication expression for the length of Belinda's broomstick.

Cara made 52 ounces of witches brew in her largest cauldron. She divided it equally into p number of cups. Write the division expression for the number of ounces in each cup.

Tabitha has z black cats. Mark has 3 times as many. Write the multiplication expression for the number of cats Mark has.

Magical Measurements

Wendy found her grandmother's recipe for witches brew and wants to make it for her class and for her magic spells club. Her recipe makes one cauldron, which is enough for 60 witches. However, she needs to make a smaller brew to feed 30 witches and another to feed 15 witches. Can you help Wendy halve and quarter the recipe for witches brew by multiplying the ingredient measurements by 1/2 and 1/4?

Witches Brew

8/3 cup swamp water

4 toad warts
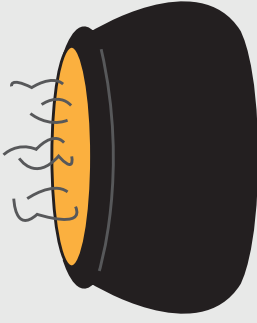
1 tsp fly's wings

1/2 tsp spider's legs

1 eye of newt

1/4 cup werewolf hair

1/4 recipe

Witches Brew
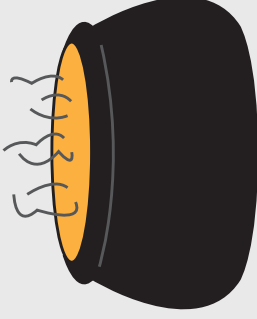
_____ cup swamp water

_____ toad warts

_____ tsp fly's wings

_____ tsp spider's legs

_____ eye of newt

_____ cup werewolf hair

1/2 recipe

Witches Brew

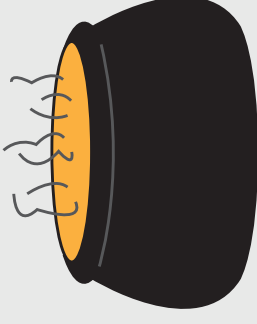_____ cup swamp water

_____ toad warts

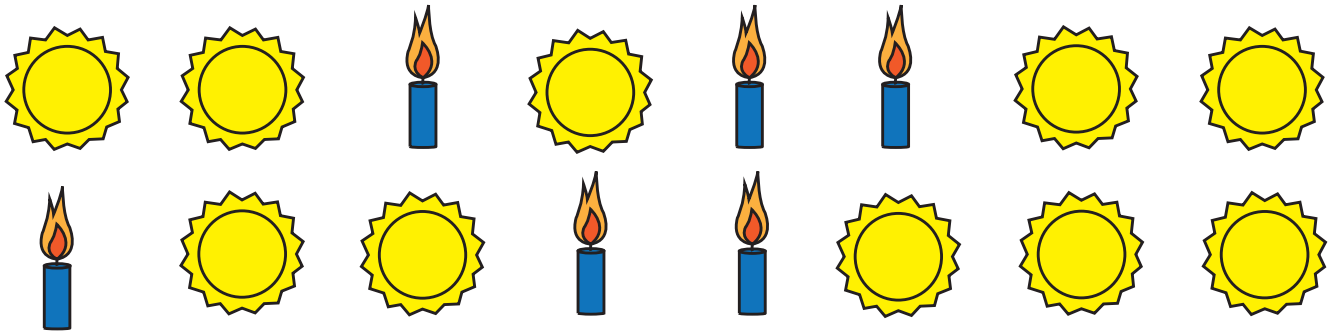_____ tsp fly's wings

_____ tsp spider's legs

_____ eye of newt

_____ cup werewolf hair

Wicked Ratios

A ratio compares two or more numbers.

In the example above, there are six candles and ten suns. The ratio of candles to suns is 6 to 10 or **6:10**. The ratio of suns to candles is 10 to 6 or **10:6**.

The ratio can be simplified by dividing both numbers by the biggest common number. The number candles and suns can both be divided by 2, so the ratio of candles to suns is **3:6** and the ratio of suns to candles is **5:3**.
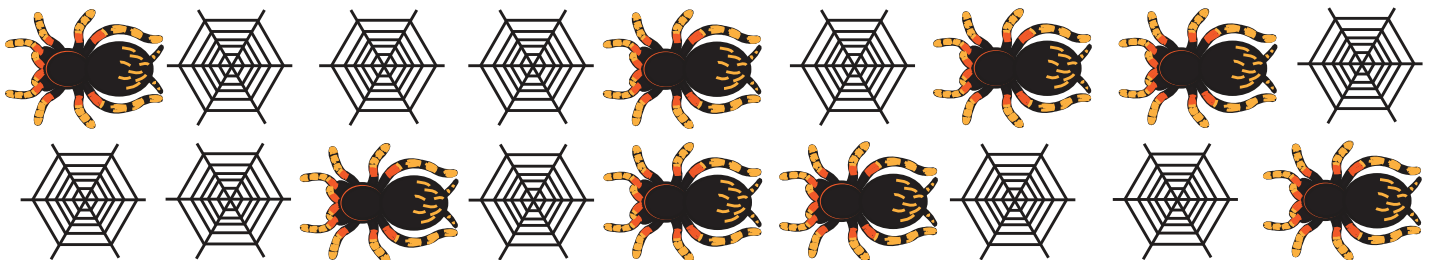
1. What is the ratio of jack o' lanterns to pumpkins? ____ : ____

2. What is the ratio of crows to bats? ____ : ____

3. What is the simplified ratio of crows to bats? ____ : ____

4. What is the ratio of spiders to webs? ____ : ____

5. What is the simplified ratio of spiders to webs? ____ : ____

6. What is the simplified ratio of webs to spiders? ____ : ____

DUNGEON REMODEL

Count Calloway is remodeling his dungeon before his family comes to visit for Halloween. He wants it to be complete with a hay bed, a concrete bench, stone floor, wood bridge and a moat! Use the area formula to calculate how much the count will spend on his remodel and fill in the table below. (Remember, area = length x width.)
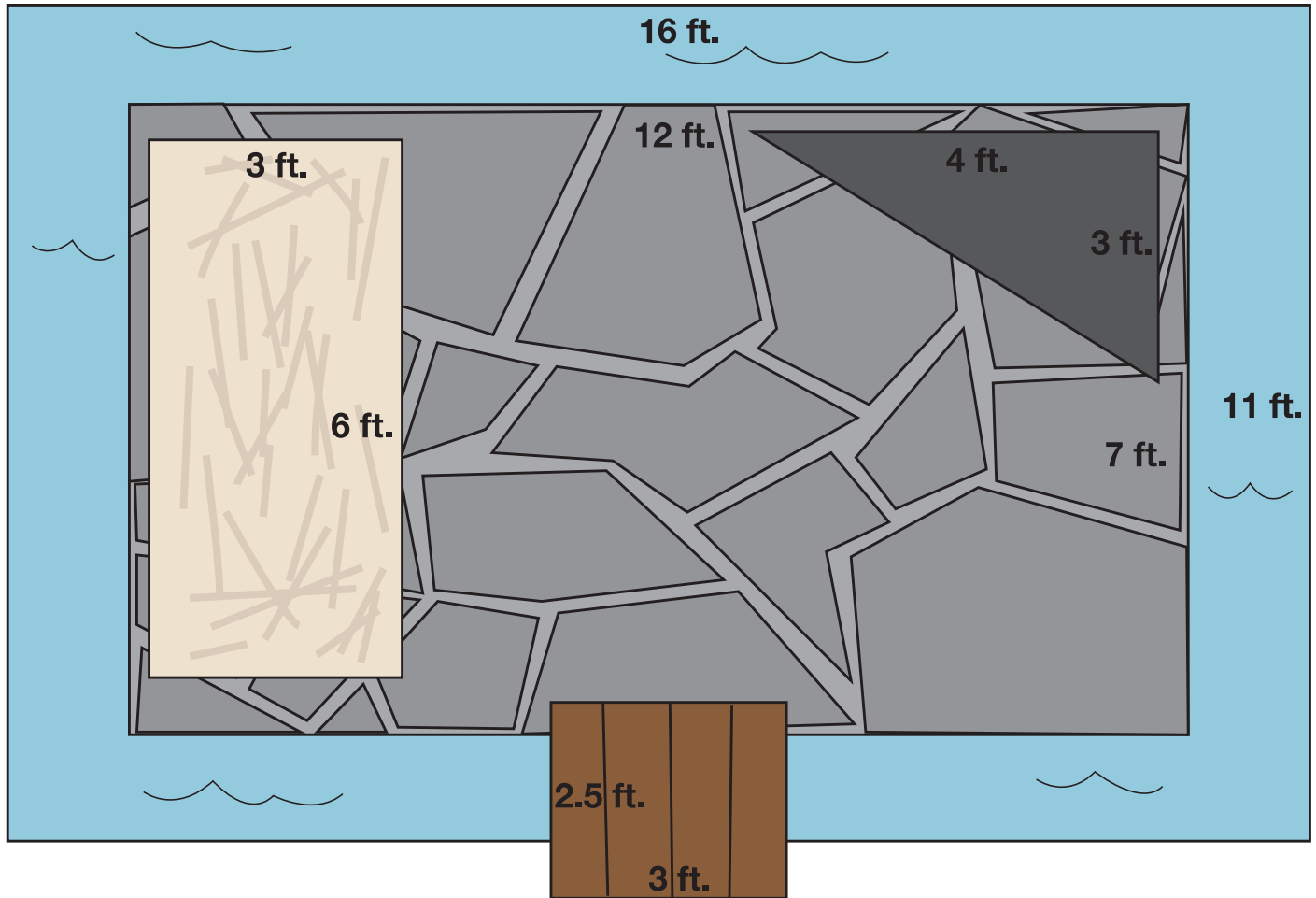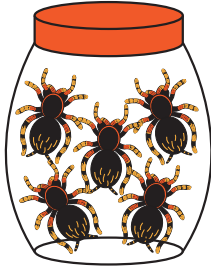

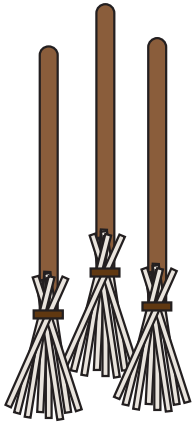| Material		Price/Sq.Ft.	Area	Price
	hay	$3		
	concrete	$7		
	stone flooring	$12		
	wood planks	$6		
	moat	$9		

Total = [ ]

Welcome to Mummy's Market!

Calculate the cost of each item in a package. Don't forget to show your work!

A jar of spiders costs $15. There are 5 spiders in a jar. How much does each spider cost?

A bushel of brooms costs $81. Each bushel contains 3 magic witches brooms. How much does each broom cost?

A crate of crystal goblets costs $72. There are 6 goblets in a crate. How much does each goblet cost?

Thelma is excited to see that Mummy's has candles in stock. There is a pack of 12 candles for $24 and a pack of 20 candles for $30. Which pack is a better is a better deal?