
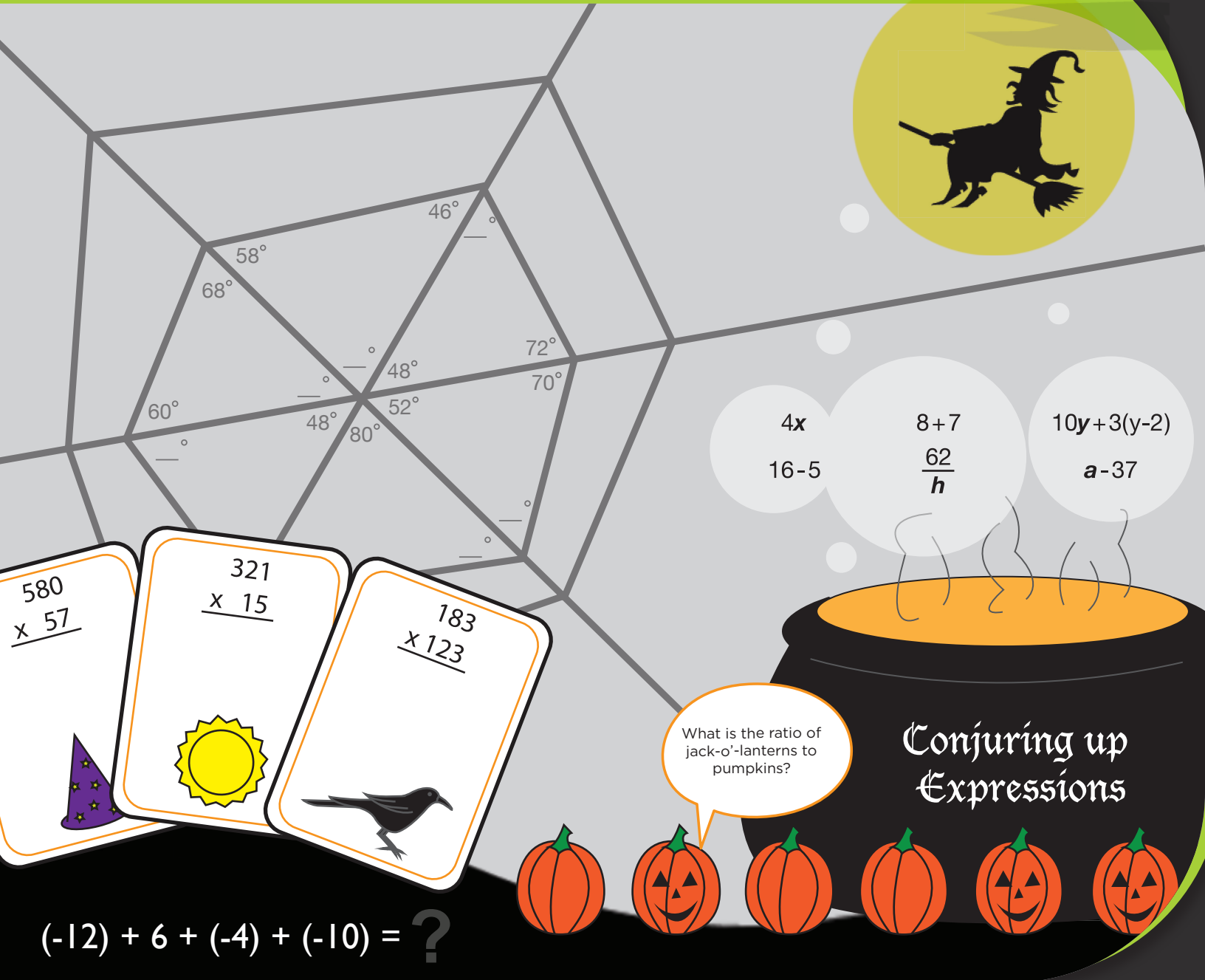


# Spooky Math

5<sup>th</sup>  
Grade



4x  
16-5

$8+7$   
 $\frac{62}{h}$

$10y+3(y-2)$   
 $a-37$

580  
x 57

321  
x 15

183  
x 123

What is the ratio of jack-o'-lanterns to pumpkins?

Conjuring up Expressions

$(-12) + 6 + (-4) + (-10) = ?$

# Table of Contents

---

## Spooky Math

Number Patterns \*  
Nightmare Number Patterns \*  
Adding Negative Numbers \*  
Adding Positive and Negative Numbers \*  
Adding Positive and Negative Numbers #2 \*  
Adding Positive and Negative Numbers #5 \*  
Mad Scientist: Lab Liquidation Sale Today! \*  
Division Riddle \*  
Mystical Multiplication \*  
Conjuring up Expressions \*  
Magical Measurements \*  
Wicked Ratios \*  
Dungeon Remodel \*  
Welcome to Mummy's Market! \*  
On the Grid: All Hallow's Eve \*  
Weaving a Perfect Web \*  
Trick-or-Treat! \*  
Trekking Through Transylvania \*

*Certificate of Completion*

*Answer Sheets*

*\* Has an Answer Sheet*

Want more workbooks? Join Education.com Plus to save time and money.  
<http://www.education.com/education-plus/>

# Number Patterns

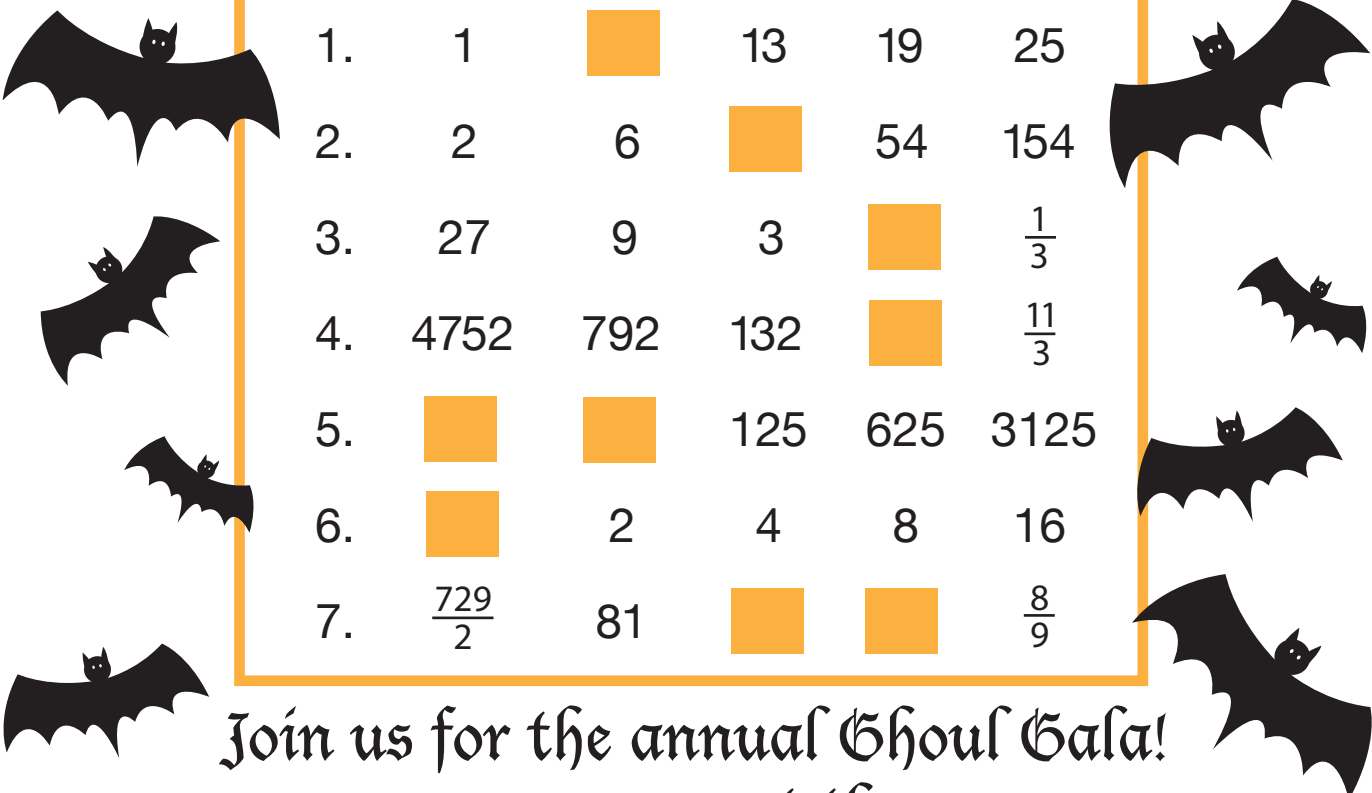
Vicki the vampire just got her invitation to the annual ghoul gala! She is very excited about this year's event, but the invitation is encoded in a "letter-number" cipher. This is when letters are replaced by numbers. Solve the number pattern problems below to decode the cipher and help Vicki figure out the location of this year's party!

The numbers follow a pattern and you will need to add, subtract, divide, or multiply to find the missing numbers.

Example:

2    6    10    **14**    18    (+4) The letter is N

A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	K 11	L 12	M 13
N 14	O 15	P 16	Q 17	R 18	S 19	T 20	U 21	V 22	W 23	X 24	Y 25	Z 26














- 
- 1        13    19    25
  - 2    2    6        54    154
  - 3    27    9    3         $\frac{1}{3}$
  - 4    4752    792    132         $\frac{11}{3}$
  - 5            125    625    3125
  - 6        2    4    8    16
  - 7     $\frac{729}{2}$     81             $\frac{8}{9}$

Join us for the annual Ghoul Gala!  
10:00 pm at the:

1    2    3    4    5a    5b    6    7a    7b

# Nightmare Number Patterns

Figure out what whole number or fraction is multiplied or divided to get the next number in the pattern. Write the number pattern in the pumpkin next to each line and then use it to fill in the missing numbers.

	1.	324	108	<input type="text"/>	<input type="text"/>	4	<input type="text"/>	<input type="text"/>	$\frac{4}{27}$
	2.	$\frac{3}{25}$	<input type="text"/>	3	15	<input type="text"/>	375	<input type="text"/>	<input type="text"/>
	3.	<input type="text"/>	$\frac{3}{2}$	<input type="text"/>	6	<input type="text"/>	<input type="text"/>	48	96
	4.	1458	<input type="text"/>	<input type="text"/>	<input type="text"/>	18	6	<input type="text"/>	$\frac{2}{3}$
	5.	1	3	<input type="text"/>	<input type="text"/>	<input type="text"/>	243	<input type="text"/>	2187
	6.	<input type="text"/>	<input type="text"/>	96	384	<input type="text"/>	6144	24,576	<input type="text"/>
	7.	224	<input type="text"/>	<input type="text"/>	28	14	<input type="text"/>	$\frac{7}{2}$	<input type="text"/>
	8.	<input type="text"/>	891	<input type="text"/>	<input type="text"/>	<input type="text"/>	176	$\frac{176}{3}$	$\frac{176}{9}$
	9.	31,232	<input type="text"/>	1952	488	<input type="text"/>	$\frac{61}{2}$	<input type="text"/>	<input type="text"/>
	10.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	35	7	$\frac{7}{5}$	$\frac{7}{25}$
	11.	$\frac{9}{2}$	9	<input type="text"/>	<input type="text"/>	72	<input type="text"/>	<input type="text"/>	576
	12.	$\frac{64}{25}$	<input type="text"/>	<input type="text"/>	5	<input type="text"/>	<input type="text"/>	$\frac{625}{64}$	$\frac{3125}{256}$
	13.	<input type="text"/>	2	6	<input type="text"/>	<input type="text"/>	162	486	<input type="text"/>

# Adding Integers

Add each equation below with positive and negative integers.

1.  $16 + 6 =$

\_\_\_\_\_

2.  $1 + (-4) =$

\_\_\_\_\_

3.  $(-5) + (-3) =$

\_\_\_\_\_

4.  $(-14) + 5 =$

\_\_\_\_\_

5.  $(-3) + 3 =$

\_\_\_\_\_

6.  $(-7) + 10 =$

\_\_\_\_\_

7.  $2 + 9 =$

\_\_\_\_\_

8.  $(-8) + 6 =$

\_\_\_\_\_

9.  $(-2) + (-4) =$

\_\_\_\_\_

10.  $(-5) + 10 =$

\_\_\_\_\_

11.  $(-12) + 3 =$

\_\_\_\_\_

12.  $(-8) + 13 =$

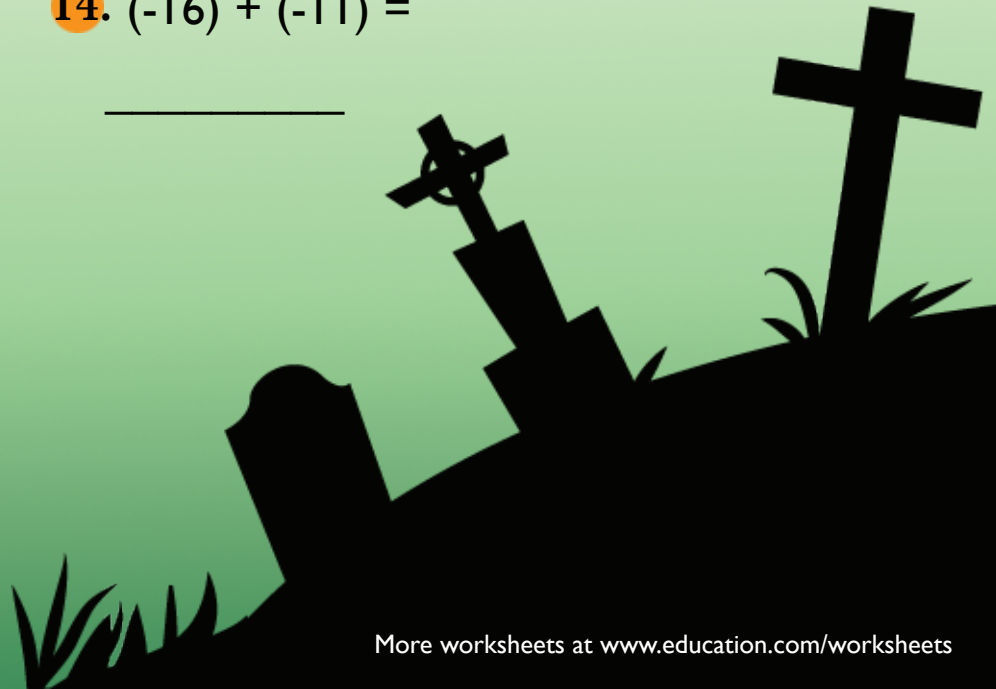
\_\_\_\_\_

13.  $9 + (-14) =$

\_\_\_\_\_

14.  $(-16) + (-11) =$

\_\_\_\_\_



# Adding Integers

Add each equation below with positive and negative integers.



1.  $3 + (-4) + (-7) + 6 =$

\_\_\_\_\_

2.  $12 + 5 + 3 + (-4) =$

\_\_\_\_\_

3.  $10 + 4 + (-2) + 9 =$

\_\_\_\_\_

4.  $5 + 5 + 6 + (-5) =$

\_\_\_\_\_

5.  $(-1) + (-4) + (-3) + (-1) =$

\_\_\_\_\_

6.  $(-12) + 6 + (-4) + (-10) =$

\_\_\_\_\_

7.  $20 + 2 + 2 + (-7) =$

\_\_\_\_\_

8.  $(-7) + (-12) + (-4) + (-3) =$

\_\_\_\_\_

9.  $6 + 4 + (-4) + 8 =$

\_\_\_\_\_





# Adding Integers

Find the missing addend to each equation.

1. \_\_\_\_\_ + (-2) = 8

\_\_\_\_\_

2. (-9) + \_\_\_\_\_ = (-15)

\_\_\_\_\_

3. (-6) + \_\_\_\_\_ = (-11)

\_\_\_\_\_

4. \_\_\_\_\_ + (-2) = (-5)

\_\_\_\_\_

5. \_\_\_\_\_ + (-4) = 10

\_\_\_\_\_

6. \_\_\_\_\_ + (-6) = (-12)

\_\_\_\_\_

7. 15 + \_\_\_\_\_ = 5

\_\_\_\_\_

8. \_\_\_\_\_ + 9 = 7

\_\_\_\_\_

9. (-4) + \_\_\_\_\_ = 11

\_\_\_\_\_



# Adding Integers



Find the missing addend to each equation.

1.  $(-8) + \underline{\hspace{2cm}} + 3 = (-12)$

\_\_\_\_\_

2.  $(-9) + 5 + \underline{\hspace{2cm}} = (-18)$

\_\_\_\_\_

3.  $\underline{\hspace{2cm}} + 3 + (-4) = 7$

\_\_\_\_\_

4.  $10 + (-5) + \underline{\hspace{2cm}} = 16$

\_\_\_\_\_

5.  $(-3) + (-5) + \underline{\hspace{2cm}} = (-8)$

\_\_\_\_\_

6.  $4 + (-5) + \underline{\hspace{2cm}} = (-3)$

\_\_\_\_\_

7.  $2 + \underline{\hspace{2cm}} + (-5) = (-5)$

\_\_\_\_\_

8.  $8 + \underline{\hspace{2cm}} + (-10) = (-5)$

\_\_\_\_\_

9.  $(-3) + \underline{\hspace{2cm}} + (-5) = (-17)$

\_\_\_\_\_





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? \_\_\_\_\_

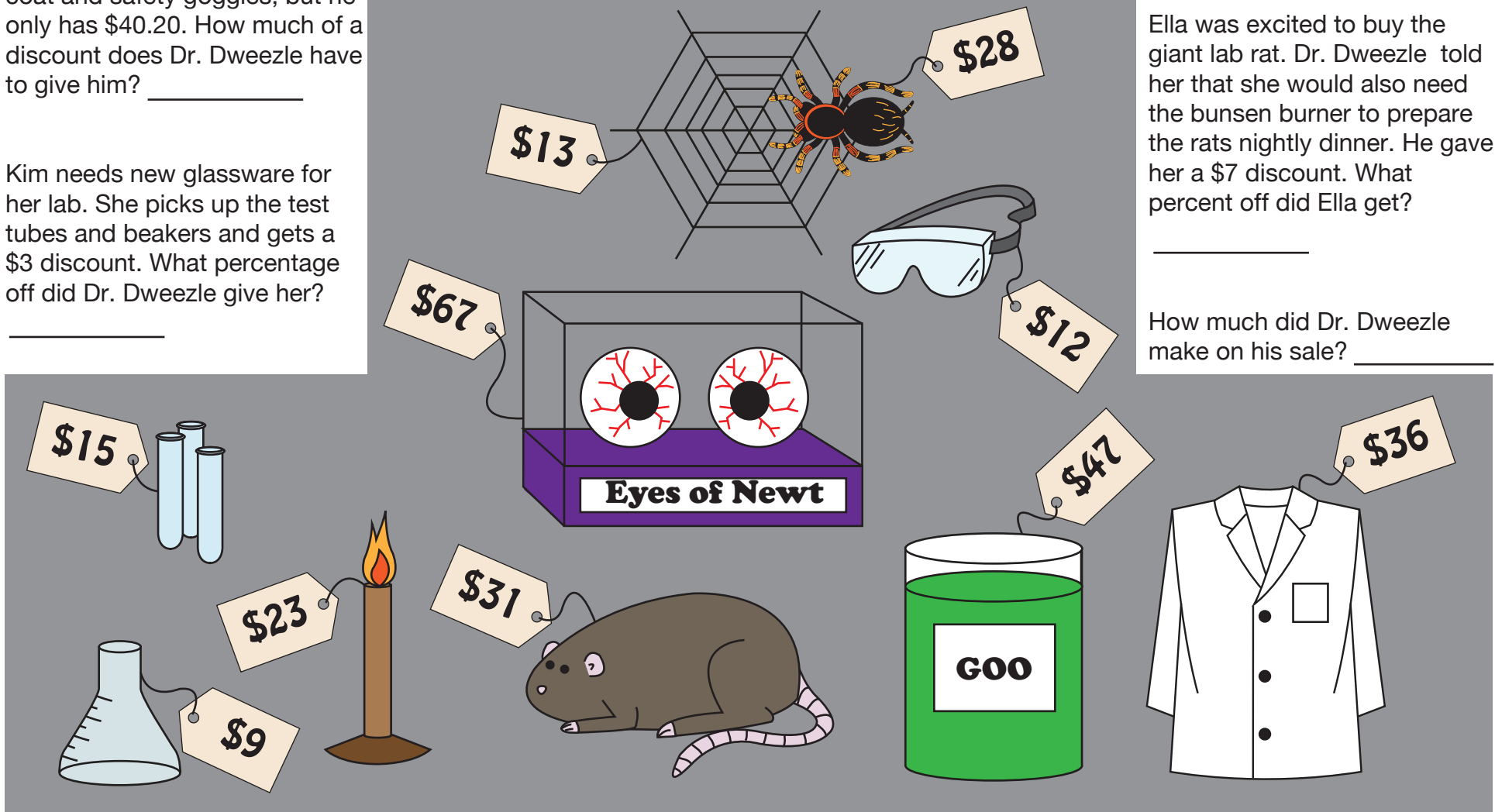
# MAD SCIENTIST

## 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? \_\_\_\_\_

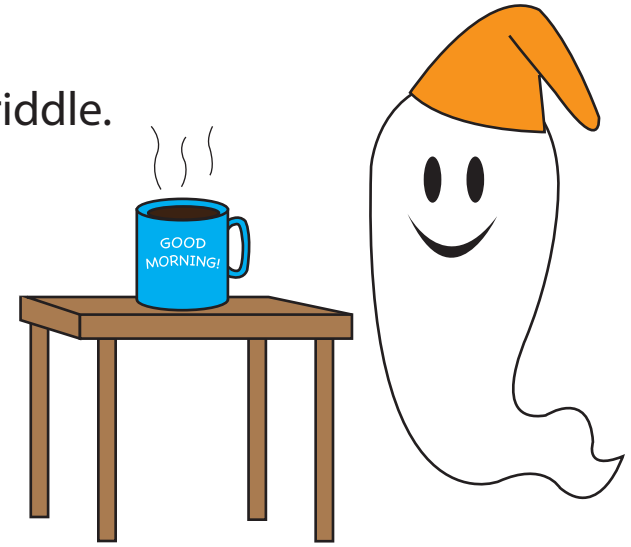
How much did Dr. Dweezle make on his sale? \_\_\_\_\_



# Division Riddle

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

$2 \text{ r } 3 = \text{n}$	$3 = \text{i}$	$25 \text{ r } 1 = -$
$17 = \text{b}$	$9 = \text{r}$	$11 \text{ r } 9 = \text{m}$
$23 \text{ r } 12 = \text{e}$	$7 \text{ r } 10 = \text{y}$	$2 \text{ r } 41 = \text{u}$
$13 = \text{o}$	$31 = \text{f}$	



What does Spooky like to have for breakfast?

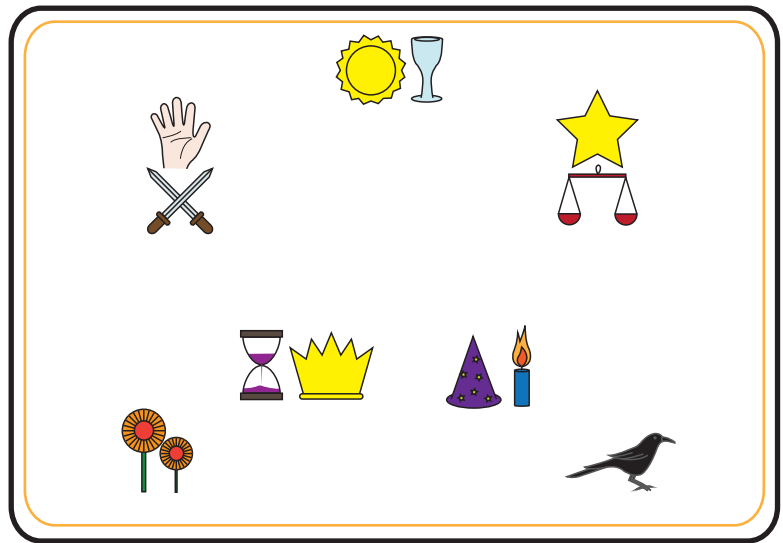
A cup of coffee and a

$\begin{array}{r} 17 \\ 53 \overline{)901} \\ \underline{53} \phantom{0} \\ 371 \\ \underline{371} \\ 0 \end{array}$	$68 \overline{)884}$	$27 \overline{)351}$	$18 \overline{)451}$	$41 \overline{)697}$	$31 \overline{)716}$	$72 \overline{)648}$	$23 \overline{)207}$	$19 \overline{)143}$
b								

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

# 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.



$$\begin{array}{r} 321 \\ \times 15 \\ \hline \end{array}$$



$$\begin{array}{r} 632 \\ \times 24 \\ \hline \end{array}$$



$$\begin{array}{r} 290 \\ \times 114 \\ \hline \end{array}$$



$$\begin{array}{r} 107 \\ \times 45 \\ \hline \end{array}$$



$$\begin{array}{r} 187 \\ \times 33 \\ \hline \end{array}$$



$$\begin{array}{r} 763 \\ \times 13 \\ \hline \end{array}$$



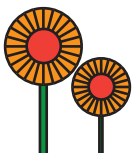
$$\begin{array}{r} 158 \\ \times 96 \\ \hline \end{array}$$



$$\begin{array}{r} 109 \\ \times 91 \\ \hline \end{array}$$



$$\begin{array}{r} 549 \\ \times 41 \\ \hline \end{array}$$



$$\begin{array}{r} 561 \\ \times 11 \\ \hline \end{array}$$



$$\begin{array}{r} 580 \\ \times 57 \\ \hline \end{array}$$



$$\begin{array}{r} 183 \\ \times 123 \\ \hline \end{array}$$



# 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:

$4x$

$8+7$

$10y+3(y-2)$

$16-5$

$\frac{62}{h}$

$a-37$

\*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.

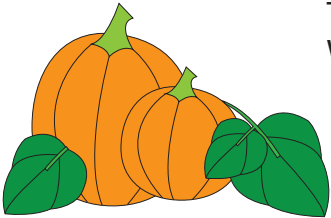


There are 17 bats flying through the haunted house. There are  $x$  times more bats in the caves behind the house. Write the multiplication expression for the number of bats in the caves.

The number of bats in the house is 17

Times  $x$

The multiplication expression is  $17x$



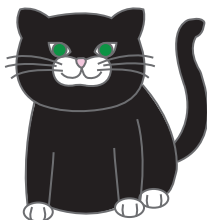
There are 64 pumpkins in the patch. They are divided into  $y$  equal groups. Write the division expression for the number of pumpkins in each group.



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  $\frac{1}{2}$  and  $\frac{1}{4}$ ?

## Witches Brew

$\frac{8}{3}$  cup swamp water

4 toad warts

1 tsp fly's wings

$\frac{1}{2}$  tsp spider's legs

1 eye of newt

$\frac{1}{4}$  cup werewolf hair



## $\frac{1}{4}$ recipe

### Witches Brew

cup swamp water

toad warts

tsp fly's wings

tsp spider's legs

eye of newt

cup werewolf hair



## $\frac{1}{2}$ recipe

### Witches Brew

cup swamp water

toad warts

tsp fly's wings

tsp spider's legs

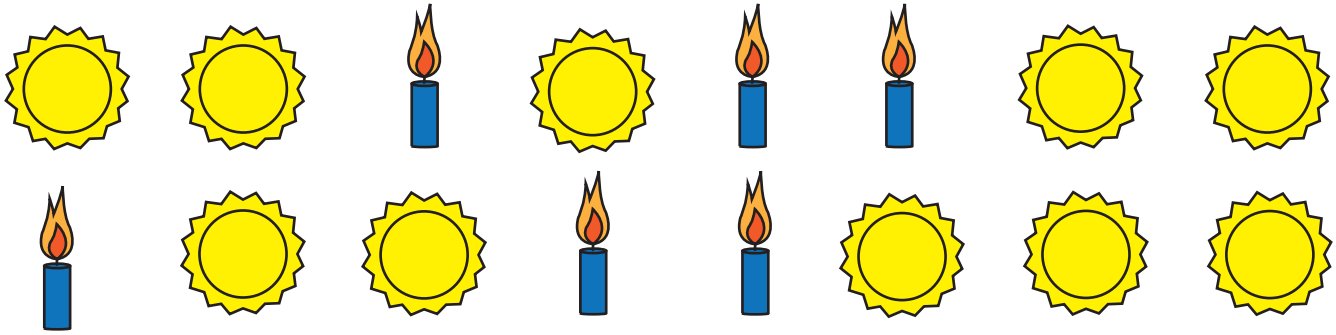
eye of newt

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**.

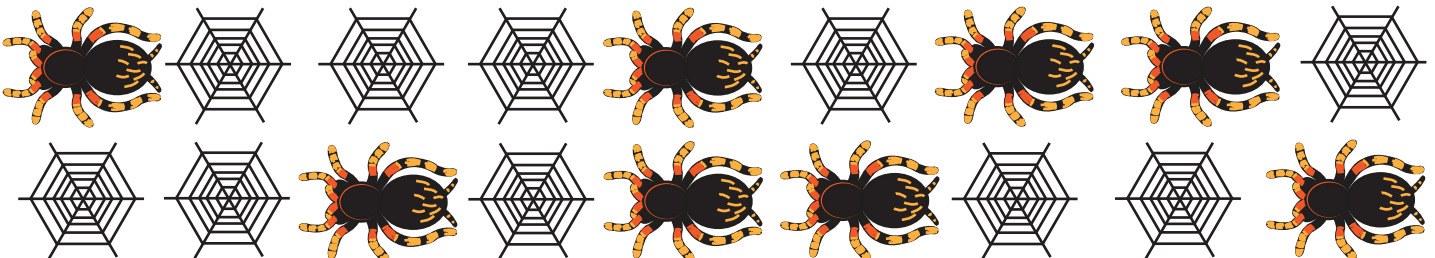


1. What is the ratio of jack o' lanterns to pumpkins? \_\_\_\_ : \_\_\_\_



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? \_\_\_\_ : \_\_\_\_

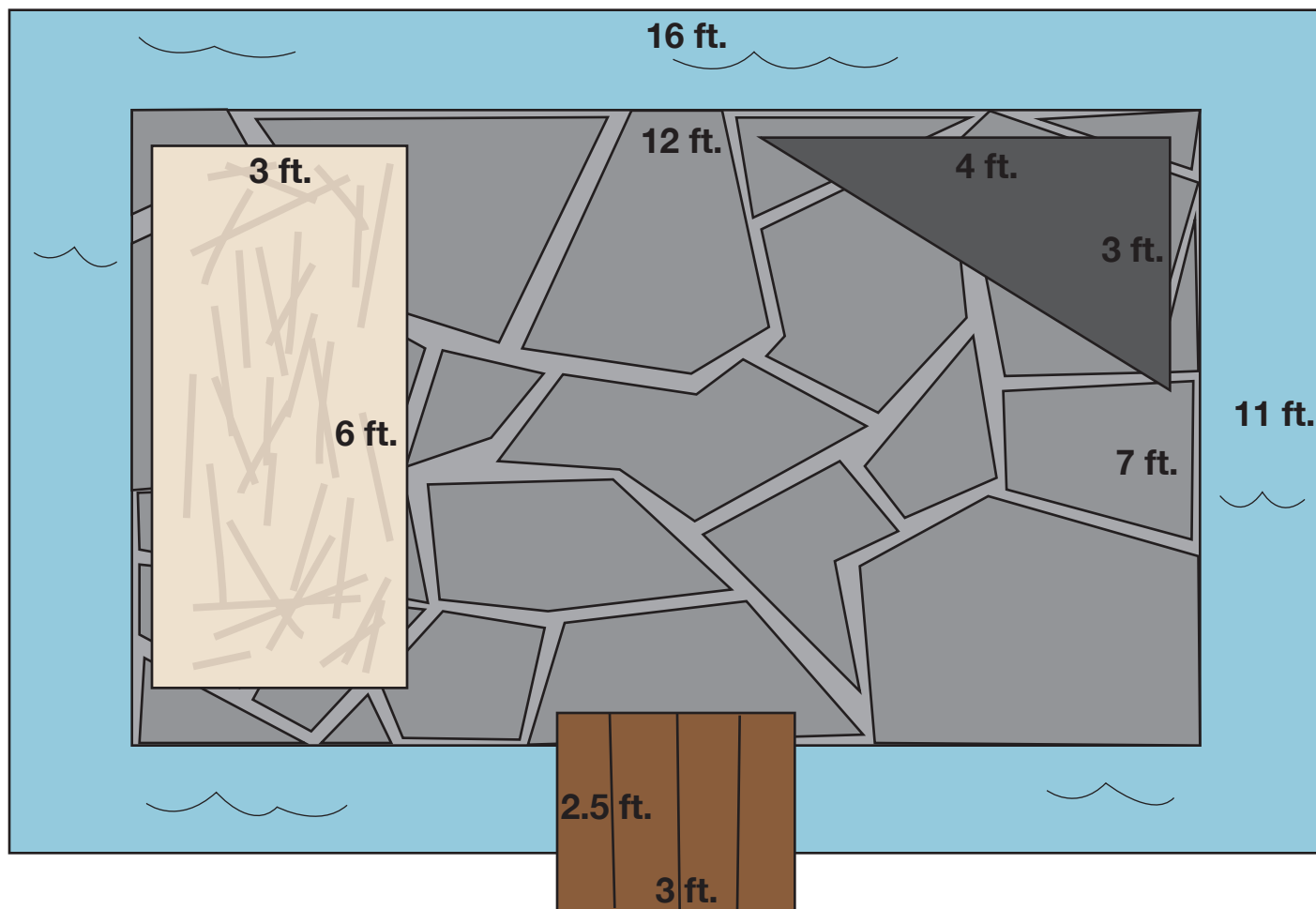
5. What is the simplified ratio of spiders to webs? \_\_\_\_ : \_\_\_\_

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.

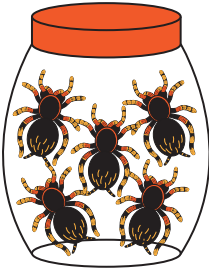
(Remember, area = length x width.)



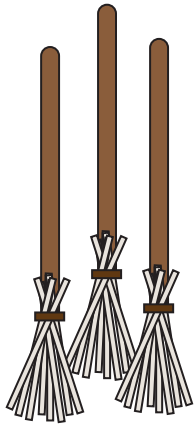
Material	Price/Sq.Ft.	Area	Price
 hay	\$3		
 concrete	\$7		
 stone flooring	\$12		
 wood planks	\$6		
 moat	\$9		
Total =			

# 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?










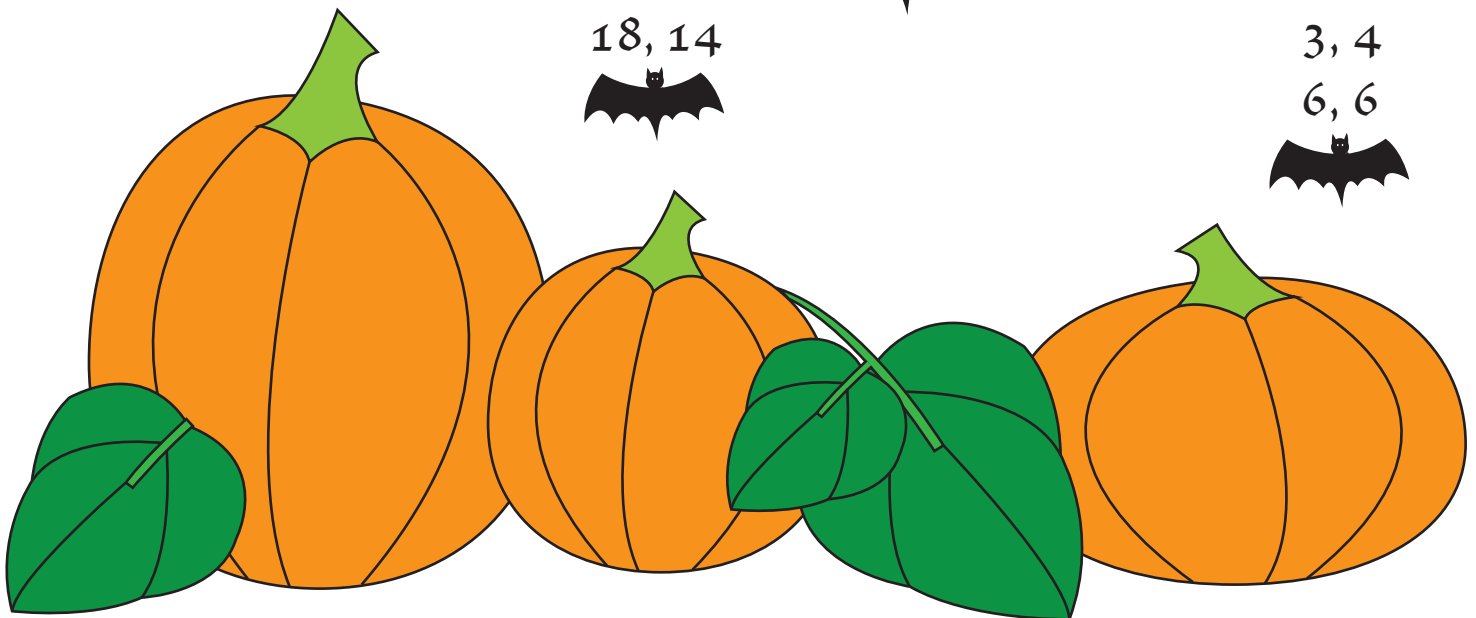
Thelma is excited to see that Mummy's has candles in stock. There  
is a pack of 12 candles for \$24 and a pack of 20 candles for \$30.  
Which pack is a better deal?



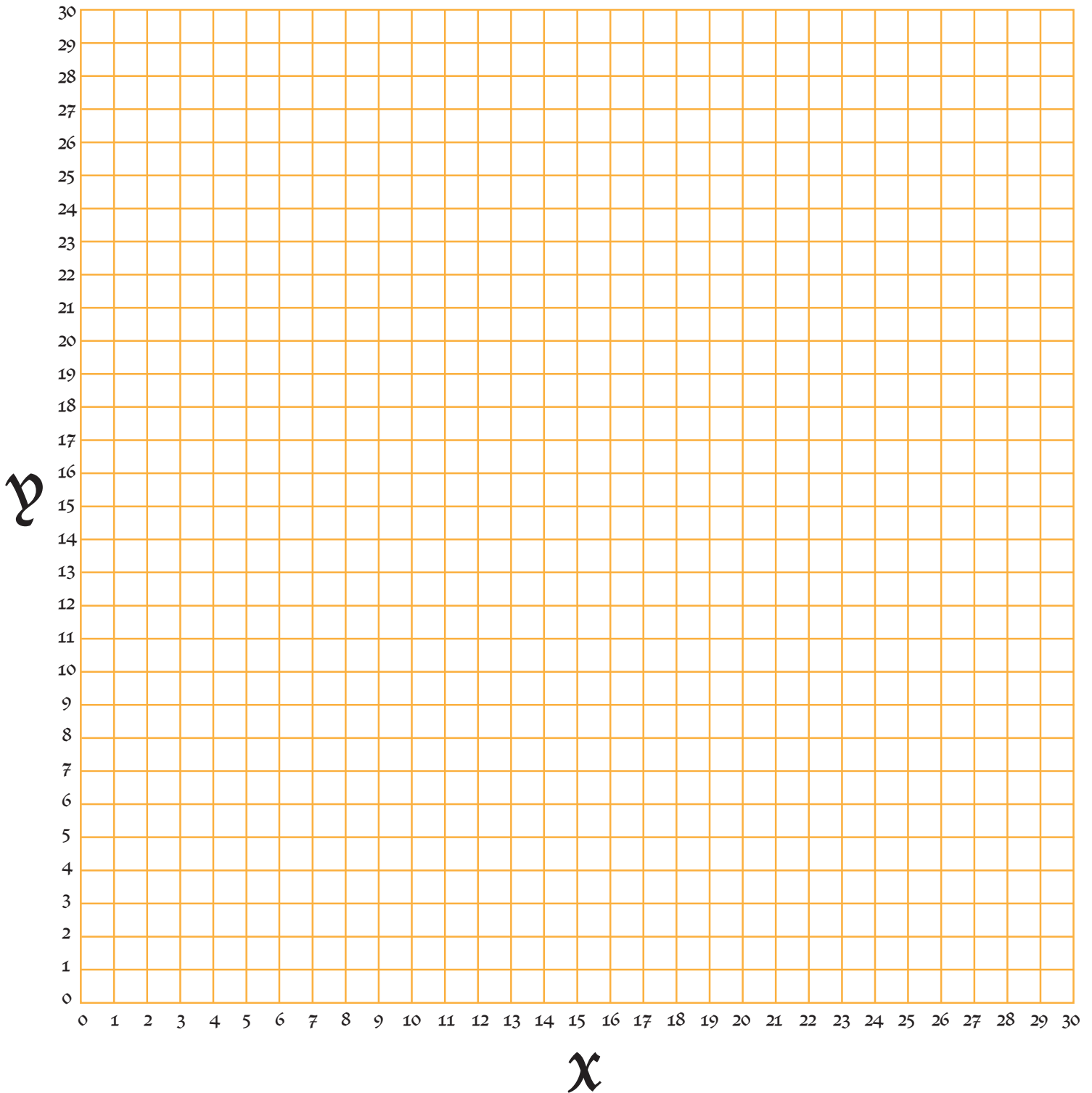
# On the Grid: All Hallow's Eve

Use the coordinates below to reveal the spooky scene that the grid holds. Connect the points with a solid line. The bats indicate where you should pick up your pencil and start a new line. Once you have finished drawing, write down what you think is happening in this Halloween scene!

<u>x,y</u>	<u>x,y</u>	<u>x,y</u>	<u>x,y</u>	<u>x,y</u>	<u>x,y</u>
7, 29	17, 17	20, 16	19, 13	15, 7	11, 7
4, 28	18, 22	21, 15	20, 12	22, 7	6, 7
3, 25	20, 17	23, 14	24, 7	23, 6	6, 6
4, 23	22, 16	21, 14	21, 7	24, 7	11, 6
5, 22	15, 16	21, 12	19, 11	27, 7	
7, 21	17, 17	18, 14	14, 8	27, 6	6, 7
9, 22	20, 17	18, 16	17, 5	16, 6	4, 9
10, 23		17, 16	15, 0		5, 7
8, 23		15, 15	8, 3		1, 8
6, 25		17, 15	11, 5		4, 7
6, 27		15, 14	11, 8		1, 6
7, 29		17, 14	12, 10		3, 6
		15, 12	18, 13		2, 5
		18, 13			5, 6
		18, 14			3, 4
					6, 6
					



# On the Grid: All Hallow's Eve



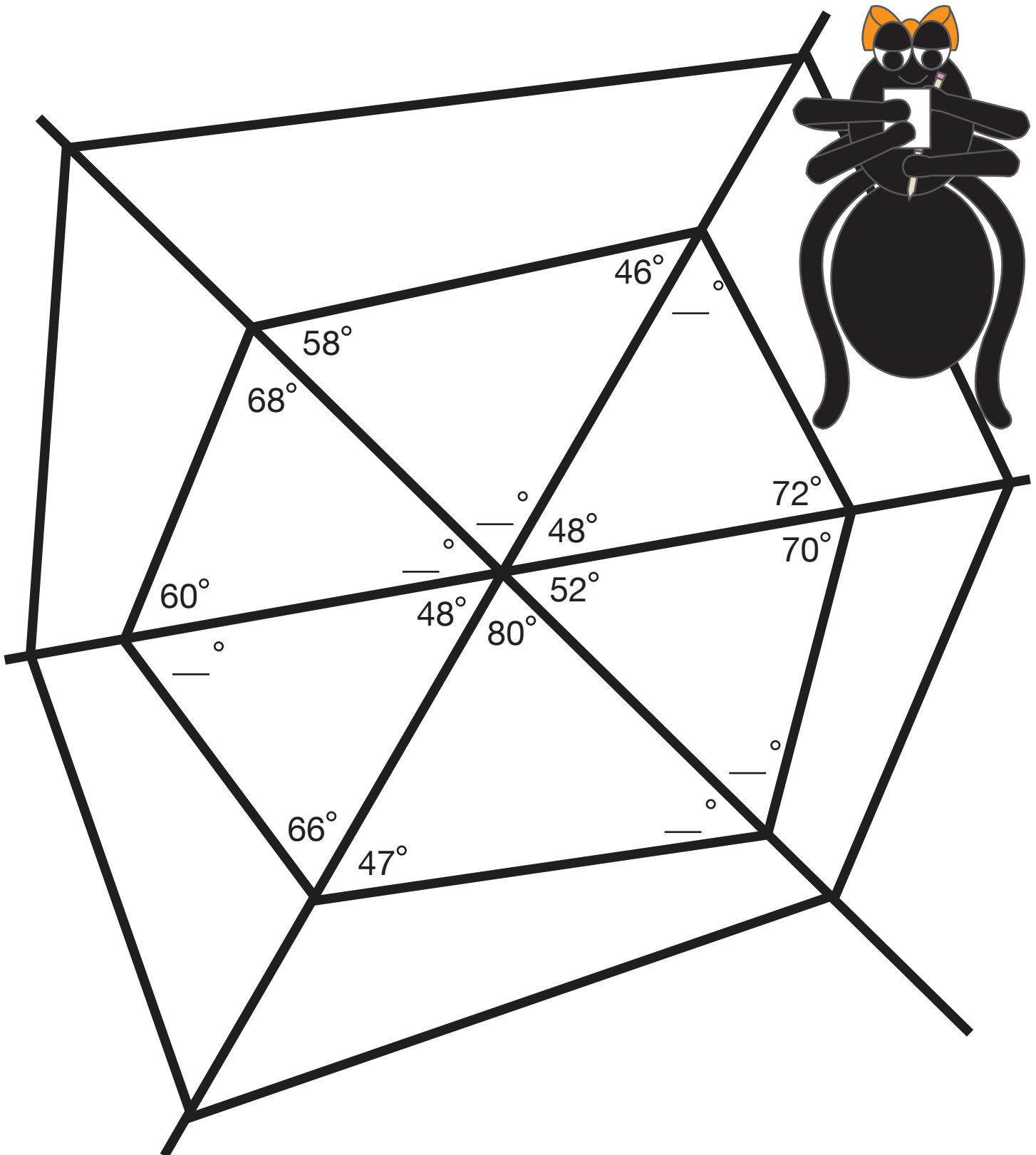
What is happening in this Halloween scene?

---

---

# Weaving A Perfect Web

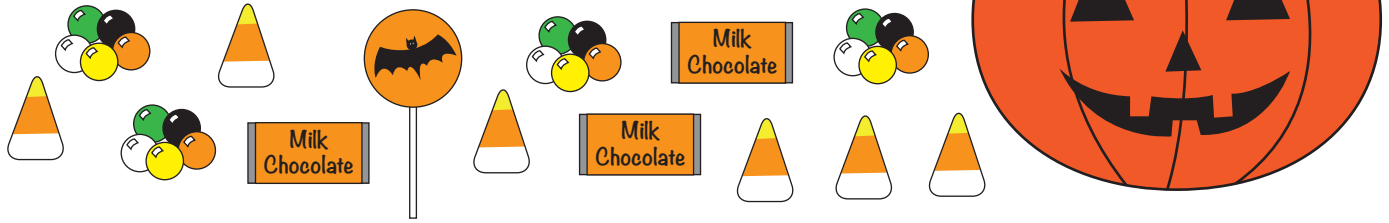
Sarah the spider has just finished her web and it's exactly how she likes it. She wants to have a drawing of her web so she can weave this web over and over again. Help Sarah find the missing angles in her web drawing. Remember, all the interior angles of a triangle add up to 180 degrees.



# Trick-or-Treat!

After a night of trick-or-treating, Roger has a basket full of candy!  
Let's find the probability of Roger picking each candy from his basket.

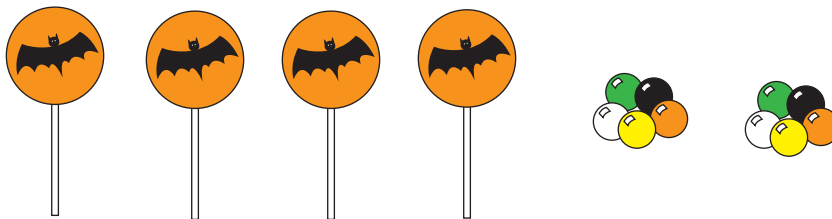
Write your answer as a fraction, and reduce it if you can!



## Example:

What is the probability of Roger picking gumballs from his basket?  $\frac{4}{14} = \frac{2}{7}$

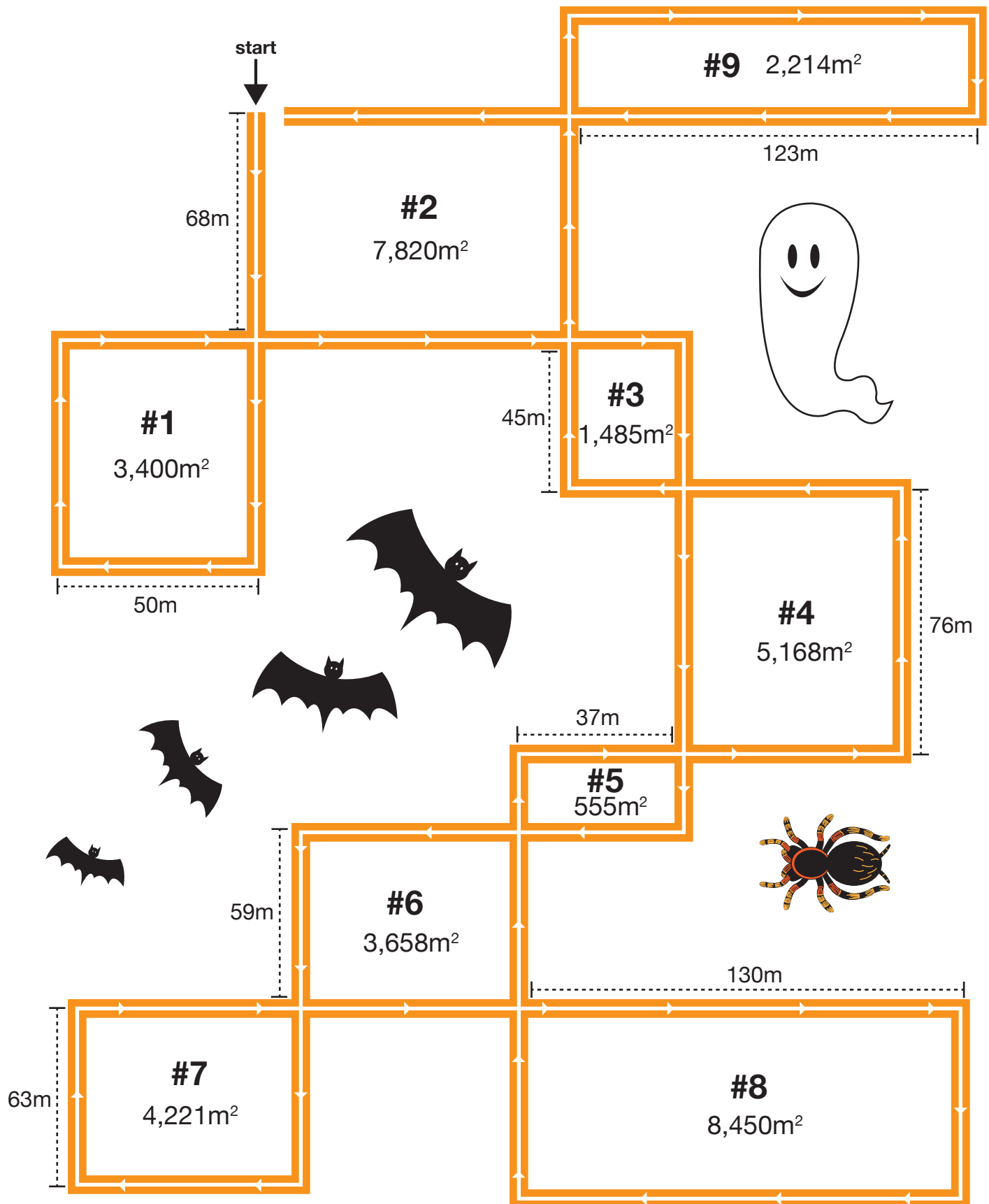
1. What is the probability of picking a chocolate bar? \_\_\_\_\_
2. What is the probability of picking a candy corn? \_\_\_\_\_
3. What is the probability of picking a lollipop? \_\_\_\_\_
4. What candy is most likely to be picked? \_\_\_\_\_
5. What candy is least likely to be picked? \_\_\_\_\_
6. What is the probability of picking a candy that is not a candy corn? \_\_\_\_\_
7. What is the probability of picking a candy that is not a lollipop? \_\_\_\_\_
8. What is the probability of picking a gumball or chocolate bar? \_\_\_\_\_



★ Roger decides to go trick-or-treating down one more street. He adds 4 more lollipops and 2 more gumballs to his basket. Now what is the probability of picking a lollipop? \_\_\_\_\_

# Trekking Through Transylvania

Timmy and Tina are taking their annual Halloween tour through Transylvania. Find the total length of their trek by finding the length of each segment. In each rectangular loop, the area and the length of one side are given. Use division to find the length of the unmarked side. Once you've found all the lengths, add them together to find the total length.



# Trekking Through Transylvania

Use this page to organize your equations and show your work.

## Remember:

area = length x width

length =  $\frac{\text{area}}{\text{width}}$

width =  $\frac{\text{area}}{\text{length}}$

m = meters

m<sup>2</sup> = square meters

### #1

length = 50m

width = 68m

area = 3400m<sup>2</sup>

perimeter:

$$50 + 68 + 50 + 68 \\ = 236\text{m}$$

$$\begin{array}{r} 68 \\ 50 \overline{)3400} \\ \underline{300} \\ 400 \\ \underline{400} \\ 0 \end{array}$$

### #2

length =

width = 68m

area = 7820m<sup>2</sup>

perimeter:

### #3

length =

width = 45m

area = 1485m<sup>2</sup>

perimeter:

### #4

length =

width = 76m

area = 5168m<sup>2</sup>

perimeter:

### #5

length = 37m

width =

area = 555m<sup>2</sup>

perimeter:

### #6

length =

width = 59m

area = 3658m<sup>2</sup>

perimeter:

### #7

length =

width = 63m

area = 4221m<sup>2</sup>

perimeter:

### #8

length = 130m

width =

area = 8,450m<sup>2</sup>

perimeter:

### #9

length = 123m

width =

area = 2214m<sup>2</sup>

perimeter:

Now add up all the perimeters to find the total length of the trek through Transylvania!

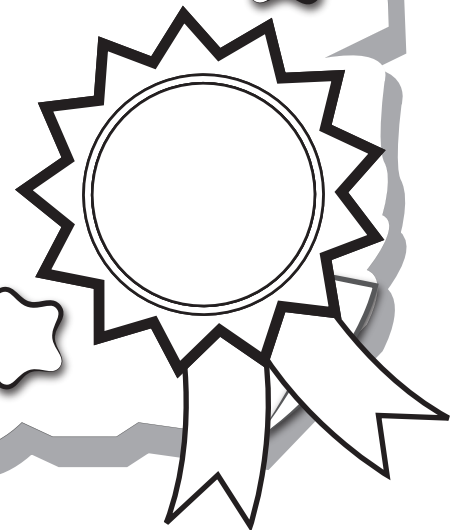
Total length = \_\_\_\_\_



# Great job!

---

is an Education.com math superstar



# Answer Sheets

---

## Spooky Math

Number Patterns  
Nightmare Number Patterns  
Adding Negative Numbers  
Adding Positive and Negative Numbers  
Adding Positive and Negative Numbers #2  
Adding Positive and Negative Numbers #5  
Mad Scientist: Lab Liquidation Sale Today!  
Division Riddle  
Mystical Multiplication  
Conjuring up Expressions  
Magical Measurements  
Wicked Ratios  
Dungeon Remodel  
Welcome to Mummy's Market!  
On the Grid: All Hallow's Eve  
Weaving a Perfect Web  
Trick-or-Treat!  
Trekking Through Transylvania

Want more workbooks? Join Education.com Plus to save time and money.  
<http://www.education.com/education-plus/>



# Answer Sheet

## Number Patterns

Vicki the vampire just got her invitation to the annual ghoul gala! She is very excited about this year's event, but the invitation is encoded in a "letter-number" cipher. This is when letters are replaced by numbers. Solve the number pattern problems below to decode the cipher and help Vicki figure out the location of this year's party!

The numbers follow a pattern and you will need to add, subtract, divide, or multiply to find the missing numbers.

Example:

2    6    10    14    18    (+4) The letter is N

A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	K 11	L 12	M 13
N 14	O 15	P 16	Q 17	R 18	S 19	T 20	U 21	V 22	W 23	X 24	Y 25	Z 26



- |    |                 |     |     |     |                |
|----|-----------------|-----|-----|-----|----------------|
| 1. | 1               | 7   | 13  | 19  | 25             |
| 2. | 2               | 6   | 18  | 54  | 154            |
| 3. | 27              | 9   | 3   | 1   | $\frac{1}{3}$  |
| 4. | 4752            | 792 | 132 | 22  | $\frac{11}{3}$ |
| 5. | 5               | 25  | 125 | 625 | 3125           |
| 6. | 1               | 2   | 4   | 8   | 16             |
| 7. | $\frac{729}{2}$ | 81  | 18  | 4   | $\frac{8}{9}$  |



Join us for the annual Ghoul Gala!














10:00 pm at the:

<b>G</b>	<b>R</b>	<b>A</b>	<b>V</b>	<b>E</b>	<b>Y</b>	<b>A</b>	<b>R</b>	<b>D</b>
1	2	3	4	5a	5b	6	7a	7b

# Answer Sheet

## Nightmare Number Patterns

Figure out what whole number or fraction is multiplied or divided to get the next number in the pattern. Write the number pattern in the pumpkin next to each line and then use it to fill in the missing numbers.

	1.	324	108	36	12	4	$\frac{4}{3}$	$\frac{4}{9}$	$\frac{4}{27}$
	2.	$\frac{3}{25}$	$\frac{3}{5}$	3	15	75	375	1875	9375
	3.	$\frac{3}{4}$	$\frac{3}{2}$	3	6	12	24	48	96
	4.	1458	486	162	54	18	6	2	$\frac{2}{3}$
	5.	1	3	9	27	81	243	729	2187
	6.	6	24	96	384	1536	6144	24,576	98,304
	7.	224	112	56	28	14	7	$\frac{7}{2}$	$\frac{7}{4}$
	8.	$\frac{2673}{2}$	891	594	396	264	176	$\frac{176}{3}$	$\frac{176}{9}$
	9.	31,232	7808	1952	488	122	$\frac{61}{2}$	$\frac{61}{8}$	$\frac{61}{32}$
	10.	21,875	4375	875	175	35	7	$\frac{7}{5}$	$\frac{7}{25}$
	11.	$\frac{9}{2}$	9	18	36	72	144	288	576
	12.	$\frac{64}{25}$	$\frac{16}{5}$	4	5	$\frac{25}{4}$	$\frac{125}{16}$	$\frac{625}{64}$	$\frac{3125}{256}$
	13.	$\frac{2}{3}$	2	6	18	54	162	486	1458

# Answer Sheet

## Adding Integers

Add each equation below with positive and negative integers.

1.  $16 + 6 =$

22

2.  $1 + (-4) =$

(-3)

3.  $(-5) + (-3) =$

(-8)

4.  $(-14) + 5 =$

(-9)

5.  $(-3) + 3 =$

0

6.  $(-7) + 10 =$

3

7.  $2 + 9 =$

11

8.  $(-8) + 6 =$

(-2)

9.  $(-2) + (-4) =$

(-6)

10.  $(-5) + 10 =$

5

11.  $(-12) + 3 =$

(-9)

12.  $(-8) + 13 =$

5

13.  $9 + (-14) =$

(-5)

14.  $(-16) + (-11) =$

(-27)

# Answer Sheet

## Adding Integers

Add each equation below with positive and negative integers.



1.  $3 + (-4) + (-7) + 6 =$   
 $(-2)$

2.  $12 + 5 + 3 + (-4) =$   
 $16$

3.  $10 + 4 + (-2) + 9 =$   
 $21$

4.  $5 + 5 + 6 + (-5) =$   
 $11$

5.  $(-1) + (-4) + (-3) + (-1) =$   
 $(-9)$

6.  $(-12) + 6 + (-4) + (-10) =$   
 $(-20)$

7.  $20 + 2 + 2 + (-7) =$   
 $17$

8.  $(-7) + (-12) + (-4) + (-3) =$   
 $(-26)$

9.  $6 + 4 + (-4) + 8 =$   
 $14$

# Answer Sheet



## Adding Integers

Find the missing addend to each equation.

1.  $\underline{\quad\quad} + (-2) = 8$   
 $\underline{\quad 10 \quad}$

2.  $(-9) + \underline{\quad\quad} = (-15)$   
 $\underline{\quad (-6) \quad}$

3.  $(-6) + \underline{\quad\quad} = (-11)$   
 $\underline{\quad (-5) \quad}$

4.  $\underline{\quad\quad} + (-2) = (-5)$   
 $\underline{\quad (-3) \quad}$

5.  $\underline{\quad\quad} + (-4) = 10$   
 $\underline{\quad 14 \quad}$

6.  $\underline{\quad\quad} + (-6) = (-12)$   
 $\underline{\quad (-6) \quad}$

7.  $15 + \underline{\quad\quad} = 5$   
 $\underline{\quad (-10) \quad}$

8.  $\underline{\quad\quad} + 9 = 7$   
 $\underline{\quad (-2) \quad}$

9.  $(-4) + \underline{\quad\quad} = 11$   
 $\underline{\quad 15 \quad}$



# Answer Sheet

## Adding Integers



Find the missing addend to each equation.

1.  $(-8) + \underline{\hspace{2cm}} + 3 = (-12)$   
 $\underline{\hspace{2cm}} \text{ (-7)}$

2.  $(-9) + 5 + \underline{\hspace{2cm}} = (-18)$   
 $\underline{\hspace{2cm}} \text{ (-14)}$

3.  $\underline{\hspace{2cm}} + 3 + (-4) = 7$   
 $\underline{\hspace{2cm}} \text{ 8}$

4.  $10 + (-5) + \underline{\hspace{2cm}} = 16$   
 $\underline{\hspace{2cm}} \text{ 11}$

5.  $(-3) + (-5) + \underline{\hspace{2cm}} = (-8)$   
 $\underline{\hspace{2cm}} \text{ 0}$

6.  $4 + (-5) + \underline{\hspace{2cm}} = (-3)$   
 $\underline{\hspace{2cm}} \text{ (-2)}$

7.  $2 + \underline{\hspace{2cm}} + (-5) = (-5)$   
 $\underline{\hspace{2cm}} \text{ (-2)}$

8.  $8 + \underline{\hspace{2cm}} + (-10) = (-5)$   
 $\underline{\hspace{2cm}} \text{ (-3)}$

9.  $(-3) + \underline{\hspace{2cm}} + (-5) = (-17)$   
 $\underline{\hspace{2cm}} \text{ (-9)}$



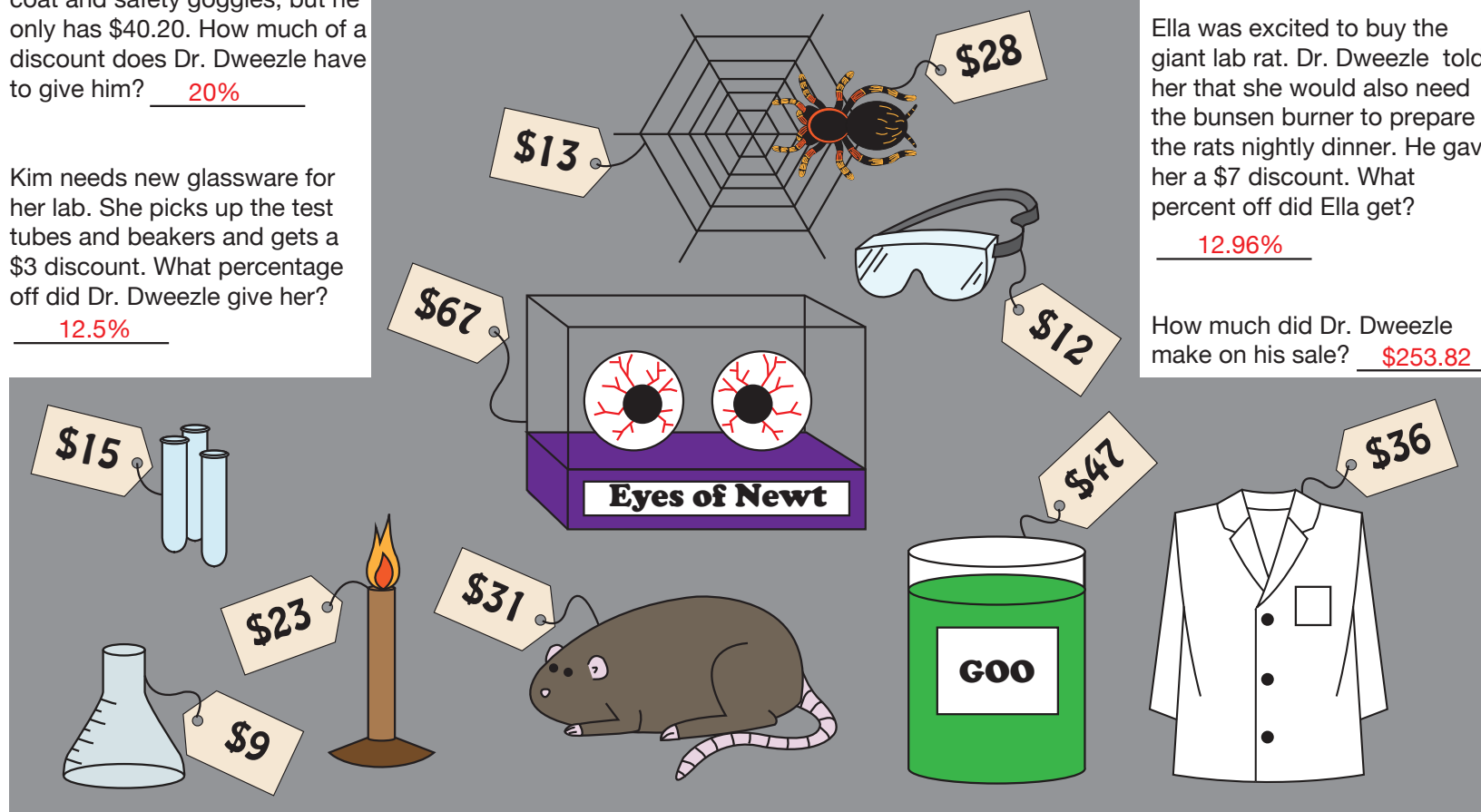
# Answer Sheet

Sydney bought the spider and the web, so Dr. Dweezle gave her a 15% discount. How much did Sydney pay? \$48.24

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? 20%

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? 12.5%

## 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? \$99.18

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? 12.96%

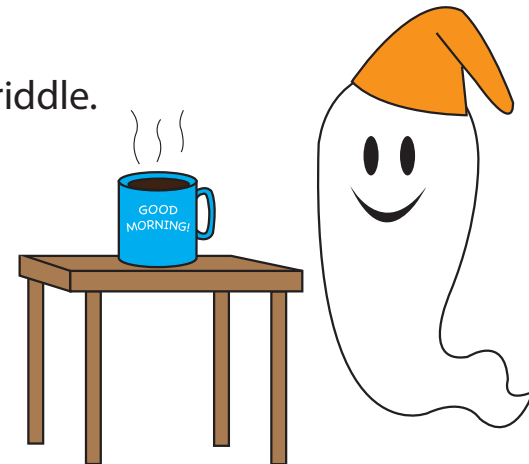
How much did Dr. Dweezle make on his sale? \$253.82

# Answer Sheet

## Division Riddle

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

$2 \text{ r}3 = \text{n}$	$3 = \text{i}$	$25 \text{ r}1 = -$
$17 = \text{b}$	$9 = \text{r}$	$11 \text{ r}9 = \text{m}$
$23 \text{ r}3 = \text{e}$	$7 \text{ r}10 = \text{y}$	$2 \text{ r}41 = \text{u}$
$13 = \text{o}$	$31 = \text{f}$	



What does Spooky like to have for breakfast?

A cup of coffee and a

$\begin{array}{r} 17 \\ 53 \overline{)901} \\ \underline{53} \phantom{0} \\ 371 \\ \underline{371} \\ 0 \end{array}$	$\begin{array}{r} 13 \\ 68 \overline{)884} \\ \underline{68} \phantom{0} \\ 204 \\ \underline{204} \\ 0 \end{array}$	$\begin{array}{r} 13 \\ 27 \overline{)351} \\ \underline{27} \phantom{0} \\ 81 \\ \underline{81} \\ 0 \end{array}$	$\begin{array}{r} 25 \\ 18 \overline{)451} \\ \underline{36} \phantom{0} \\ 91 \\ \underline{90} \\ 1 \end{array}$	$\begin{array}{r} 17 \\ 41 \overline{)697} \\ \underline{41} \phantom{0} \\ 287 \\ \underline{287} \\ 0 \end{array}$	$\begin{array}{r} 23 \\ 31 \overline{)716} \\ \underline{62} \phantom{0} \\ 96 \\ \underline{93} \\ 3 \end{array}$	$\begin{array}{r} 9 \\ 72 \overline{)648} \\ \underline{648} \\ 0 \end{array}$	$\begin{array}{r} 9 \\ 23 \overline{)207} \\ \underline{207} \\ 0 \end{array}$	$\begin{array}{r} 7 \\ 19 \overline{)143} \\ \underline{133} \\ 10 \end{array}$
b	o	o	-	b	e	r	r	y

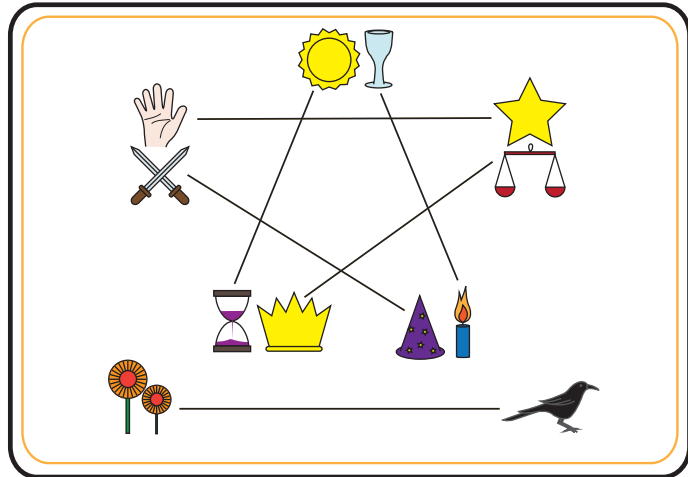
$\begin{array}{r} 11 \\ 36 \overline{)405} \\ \underline{36} \phantom{0} \\ 45 \\ \underline{36} \\ 9 \end{array}$	$\begin{array}{r} 2 \\ 63 \overline{)167} \\ \underline{126} \\ 41 \end{array}$	$\begin{array}{r} 31 \\ 25 \overline{)775} \\ \underline{75} \phantom{0} \\ 25 \\ \underline{25} \\ 0 \end{array}$	$\begin{array}{r} 31 \\ 16 \overline{)496} \\ \underline{48} \phantom{0} \\ 16 \\ \underline{16} \\ 0 \end{array}$	$\begin{array}{r} 3 \\ 98 \overline{)294} \\ \underline{294} \\ 0 \end{array}$	$\begin{array}{r} 2 \\ 57 \overline{)117} \\ \underline{114} \\ 3 \end{array}$
m	u	f	f	i	n



# Answer Sheet

## 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.



$$\begin{array}{r} 321 \\ \times 15 \\ \hline 1605 \\ + 3210 \\ \hline 4815 \end{array}$$



$$\begin{array}{r} 632 \\ \times 24 \\ \hline 2528 \\ + 12640 \\ \hline 15168 \end{array}$$



$$\begin{array}{r} 290 \\ \times 114 \\ \hline 1160 \\ + 2900 \\ + 29000 \\ \hline 33060 \end{array}$$



$$\begin{array}{r} 107 \\ \times 45 \\ \hline 535 \\ + 4280 \\ \hline 4815 \end{array}$$



$$\begin{array}{r} 187 \\ \times 33 \\ \hline 561 \\ + 5610 \\ \hline 6171 \end{array}$$



$$\begin{array}{r} 763 \\ \times 13 \\ \hline 2289 \\ + 7630 \\ \hline 9919 \end{array}$$



$$\begin{array}{r} 158 \\ \times 96 \\ \hline 1948 \\ + 14220 \\ \hline 15168 \end{array}$$



$$\begin{array}{r} 109 \\ \times 91 \\ \hline 109 \\ + 9810 \\ \hline 9919 \end{array}$$



$$\begin{array}{r} 549 \\ \times 41 \\ \hline 549 \\ + 21960 \\ \hline 22509 \end{array}$$



$$\begin{array}{r} 561 \\ \times 11 \\ \hline 561 \\ + 5610 \\ \hline 6171 \end{array}$$



$$\begin{array}{r} 580 \\ \times 57 \\ \hline 4060 \\ + 29000 \\ \hline 33060 \end{array}$$



$$\begin{array}{r} 183 \\ \times 123 \\ \hline 549 \\ + 3660 \\ + 18300 \\ \hline 22509 \end{array}$$



# Answer Sheet

## 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:

$$4x$$

$$8+7$$

$$10y+3(y-2)$$

$$16-5$$

$$\frac{62}{h}$$

$$a-37$$

\*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.

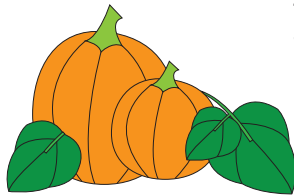


There are 17 bats flying through the haunted house. There are  $x$  times more bats in the caves behind the house. Write the multiplication expression for the number of bats in the caves.

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.

$$\frac{64}{y}$$



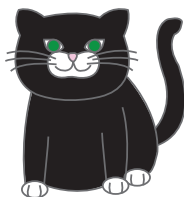
A witch's broomstick is 4 feet long. Belinda made hers  $m$  times longer to be able to carry more witches with her. Write the multiplication expression for the length of Belinda's broomstick.

$$4m$$



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.

$$\frac{52}{p}$$



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

$$3z$$

# Answer Sheet

## 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  $\frac{1}{2}$  and  $\frac{1}{4}$ ?

### $\frac{1}{4}$ recipe

#### Witches Brew

$\frac{8}{3}$  cup swamp water

4 toad warts

1 tsp fly's wings

$\frac{1}{2}$  tsp spider's legs

1 eye of newt

$\frac{1}{4}$  cup werewolf hair



#### Witches Brew

$\frac{2}{3}$  cup swamp water

1 toad warts

$\frac{1}{4}$  tsp fly's wings

$\frac{1}{8}$  tsp spider's legs

$\frac{1}{4}$  eye of newt

$\frac{1}{16}$  cup werewolf hair



### $\frac{1}{2}$ recipe

#### Witches Brew

$\frac{4}{3}$  cup swamp water

2 toad warts

$\frac{1}{2}$  tsp fly's wings

$\frac{1}{4}$  tsp spider's legs

$\frac{1}{2}$  eye of newt

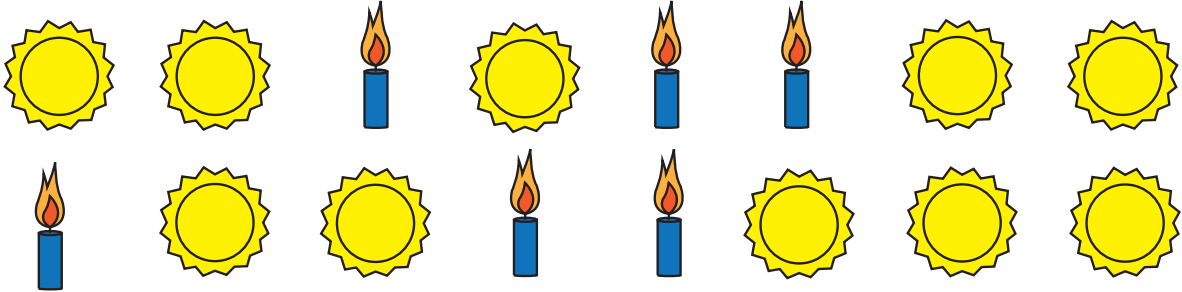
$\frac{1}{8}$  cup werewolf hair



# Answer Sheet

## 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**.

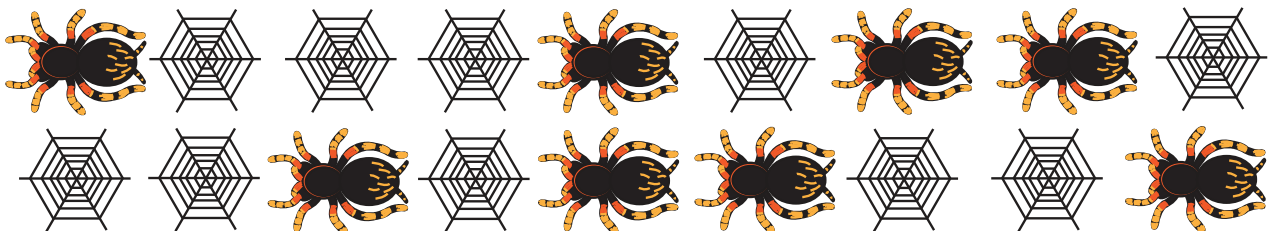


1. What is the ratio of jack o' lanterns to pumpkins? 4 : 5



2. What is the ratio of crows to bats? 3 : 6

3. What is the simplified ratio of crows to bats? 1 : 2



4. What is the ratio of spiders to webs? 8 : 10

5. What is the simplified ratio of spiders to webs? 4 : 5

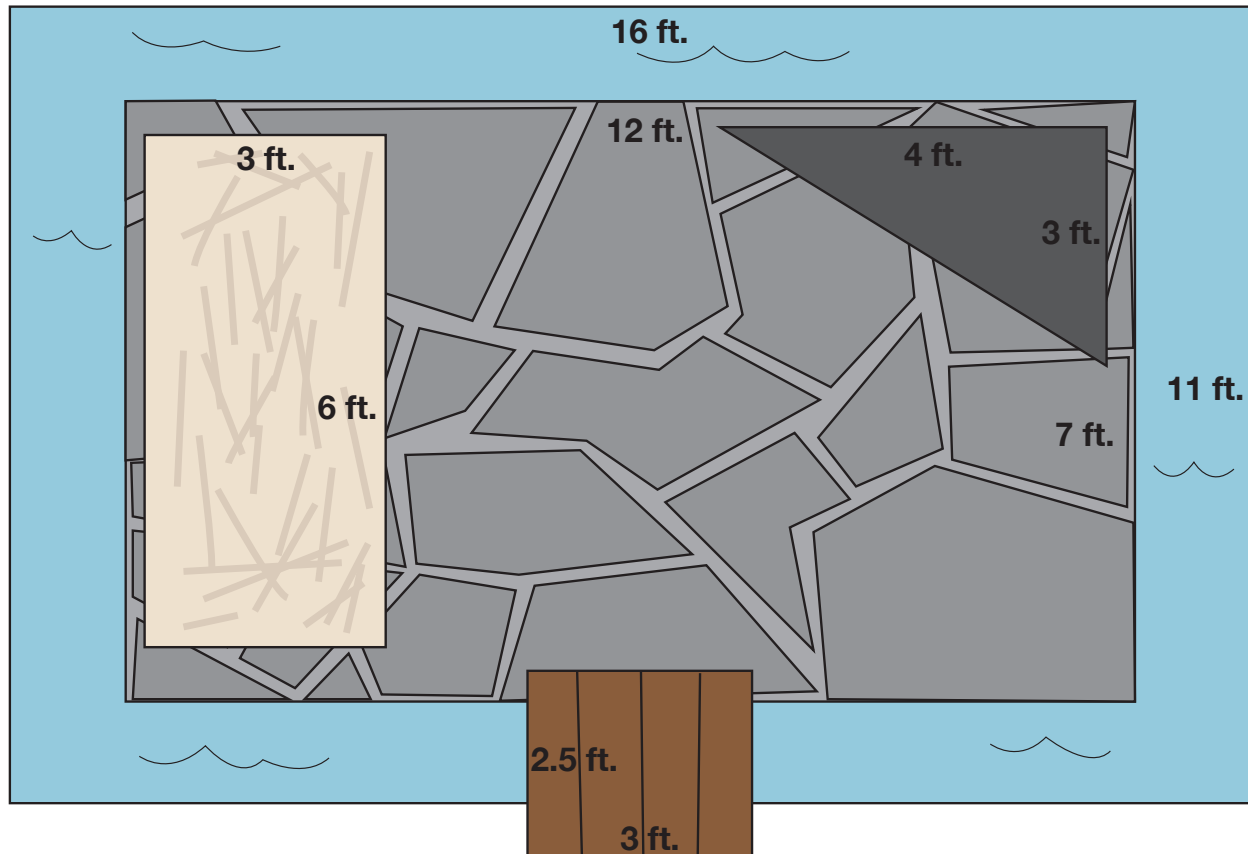
6. What is the simplified ratio of webs to spiders? 5 : 4

# Answer Sheet

## 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.)



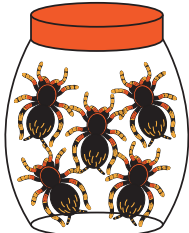
Material	Price/Sq.Ft.	Area	Price
 hay	\$3	18 sq. ft.	\$54
 concrete	\$7	6 sq. ft.	\$42
 stone flooring	\$12	84 sq. ft.	\$1008
 wood planks	\$6	$7\frac{1}{2}$ sq. ft.	\$45
 moat	\$9	92 sq. ft.	\$828

Total = **\$1977**

# Answer Sheet

## Welcome to Mummy's Market!

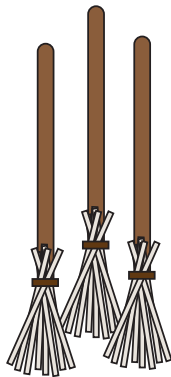
Calculate the cost of each item in a package. Don't forget to show your work!



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

$$\begin{array}{r} 3 \\ 5 \overline{)15} \\ \underline{15} \\ 0 \end{array}$$

Each spider costs \$3.



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

$$\begin{array}{r} 27 \\ 3 \overline{)81} \\ \underline{6} \\ 21 \\ \underline{21} \\ 0 \end{array}$$

Each broom costs \$27.



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

$$\begin{array}{r} 12 \\ 6 \overline{)72} \\ \underline{6} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

Each goblet costs \$12.



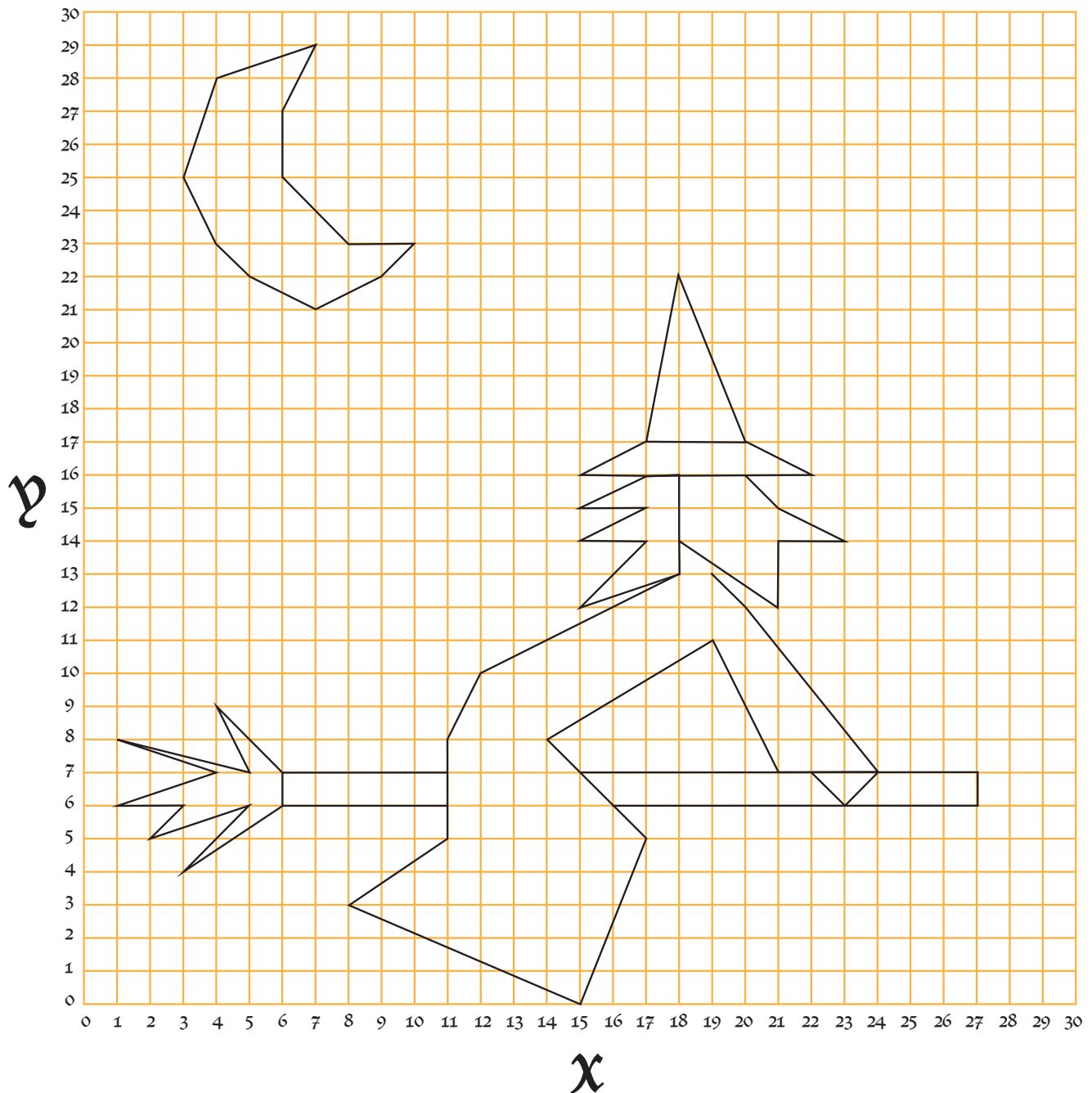
Thelma is excited to see that Mummy's has candles in stock. There  
is a pack of 12 candles for \$24 and a pack of 20 candles for \$30.  
Which pack is a better deal?

$$\begin{array}{r} 2 \\ 12 \overline{)24} \\ \underline{24} \\ 0 \end{array} \quad \begin{array}{r} 1.5 \\ 20 \overline{)30} \\ \underline{20} \\ 100 \\ \underline{100} \\ 0 \end{array}$$

The pack of 20 candles for \$30 is the  
better deal with each candle costing  
\$1.50.

# Answer Sheet

## On the Grid: All Hallow's Eve



What is happening in this Halloween scene?

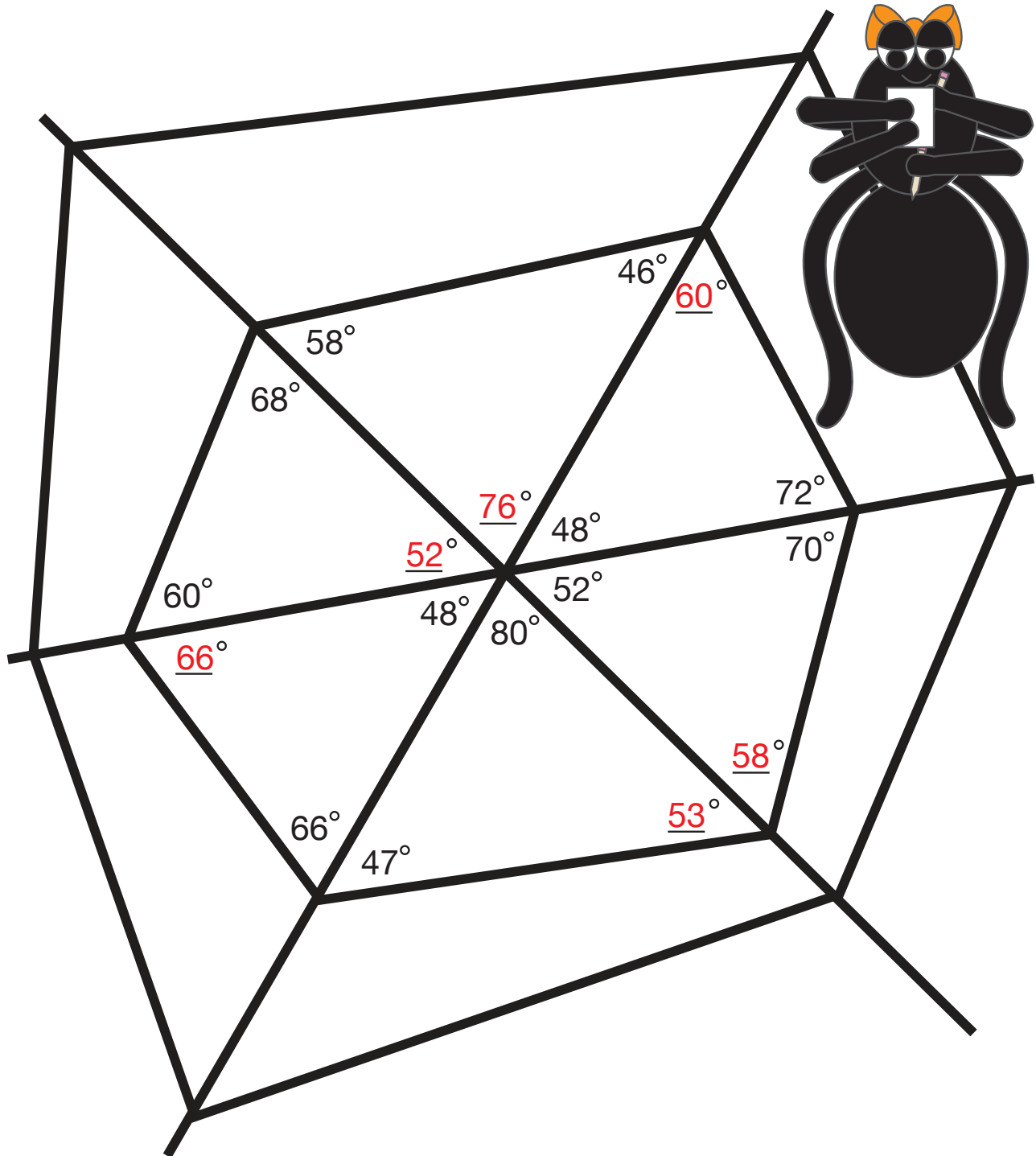
---

---

# Answer Sheet

## Weaving A Perfect Web

Sarah the spider has just finished her web and it's exactly how she likes it. She wants to have a drawing of her web so she can weave this web over and over again. Help Sarah find the missing angles in her web drawing. Remember, all the interior angles of a triangle add up to 180 degrees.





# Answer Sheet

## Trick-or-Treat!

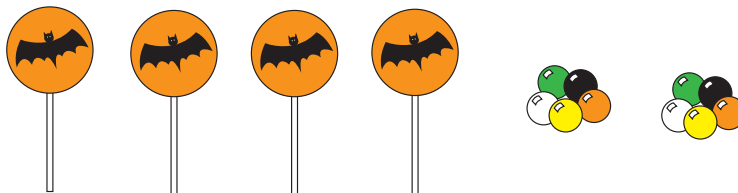
After a night of trick-or-treating, Roger has a basket full of candy!  
Let's find the probability of Roger picking each candy from his basket.  
Write your answer as a fraction, and reduce it if you can!



### Example:

What is the probability of Roger picking gumballs from his basket?  $\frac{4}{14} = \frac{2}{7}$

1. What is the probability of picking a chocolate bar?  $\frac{3}{14}$
2. What is the probability of picking a candy corn?  $\frac{6}{14} = \frac{3}{7}$
3. What is the probability of picking a lollipop?  $\frac{1}{14}$
4. What candy is most likely to be picked? Candy Corn
5. What candy is least likely to be picked? Lollipop
6. What is the probability of picking a candy that is not a candy corn?  $\frac{8}{14} = \frac{4}{7}$
7. What is the probability of picking a candy that is not a lollipop?  $\frac{13}{14}$
8. What is the probability of picking a gumball or chocolate bar?  $\frac{7}{14} = \frac{1}{2}$



★ Roger decides to go trick-or-treating down one more street. He adds 4 more lollipops and 2 more gumballs to his basket. Now what is the probability of picking a lollipop?  $\frac{5}{20} = \frac{1}{4}$

# Answer Sheet

## Trekking Through Transylvania

Use this page to organize your equations and show your work.

### Remember:

area = length x width

$$\text{length} = \frac{\text{area}}{\text{width}}$$

$$\text{width} = \frac{\text{area}}{\text{length}}$$

m = meters

m<sup>2</sup> = square meters

### #1

length = 50m

width = 68m

area = 3400m<sup>2</sup>

perimeter:

$$50 + 68 + 50 + 68 = 236\text{m}$$

$$\begin{array}{r} 68 \\ 50 \overline{)3400} \\ \underline{300} \\ 400 \\ \underline{400} \\ 0 \end{array}$$

### #2

length = 115m

width = 68m

area = 7820m<sup>2</sup>

perimeter:

$$115 + 68 + 115 + 68 = 336\text{m}$$

$$\begin{array}{r} 115 \\ 68 \overline{)7820} \\ \underline{68} \\ 102 \\ \underline{68} \\ 340 \\ \underline{340} \\ 0 \end{array}$$

### #3

length = 33m

width = 45m

area = 1485m<sup>2</sup>

perimeter:

$$33 + 45 + 33 + 45 = 166\text{m}$$

$$\begin{array}{r} 33 \\ 45 \overline{)1485} \\ \underline{135} \\ 135 \\ \underline{135} \\ 0 \end{array}$$

### #4

length = 68m

width = 76m

area = 5168m<sup>2</sup>

perimeter:

$$68 + 76 + 68 + 76 = 288\text{m}$$

$$\begin{array}{r} 68 \\ 76 \overline{)5168} \\ \underline{456} \\ 608 \\ \underline{608} \\ 0 \end{array}$$

### #5

length = 37m

width = 15m

area = 555m<sup>2</sup>

perimeter:

$$37 + 15 + 37 + 15 = 104\text{m}$$

$$\begin{array}{r} 15 \\ 37 \overline{)555} \\ \underline{37} \\ 185 \\ \underline{185} \\ 0 \end{array}$$

### #6

length = 62m

width = 59m

area = 3658m<sup>2</sup>

perimeter:

$$62 + 59 + 62 + 59 = 242\text{m}$$

$$\begin{array}{r} 62 \\ 59 \overline{)3658} \\ \underline{354} \\ 118 \\ \underline{118} \\ 0 \end{array}$$

### #7

length = 67m

width = 63m

area = 4221m<sup>2</sup>

perimeter:

$$67 + 63 + 67 + 63 = 260\text{m}$$

$$\begin{array}{r} 67 \\ 63 \overline{)4221} \\ \underline{378} \\ 441 \\ \underline{441} \\ 0 \end{array}$$

### #8

length = 130m

width = 65m

area = 8,450m<sup>2</sup>

perimeter:

$$130 + 65 + 130 + 65 = 390\text{m}$$

$$\begin{array}{r} 65 \\ 130 \overline{)8450} \\ \underline{780} \\ 650 \\ \underline{650} \\ 0 \end{array}$$

### #9

length = 123m

width = 18m

area = 2214m<sup>2</sup>

perimeter:

$$123 + 18 + 123 + 18 = 282\text{m}$$

$$\begin{array}{r} 18 \\ 123 \overline{)2214} \\ \underline{123} \\ 984 \\ \underline{984} \\ 0 \end{array}$$

Now add up all the perimeters to find the total length of the trek through Transylvania!

$$336 + 236 + 166 + 288 + 104 + 242 + 260 + 390 + 282$$

Total length = 2304m