

Dear Parents and incoming 7<sup>th</sup> and 8<sup>th</sup> grade students,

The purpose of the math packet is to help your student practice and maintain their math skills over the summer vacation. To help your child get the most out of the summer math packet, I strongly encourage that the packet is worked on throughout the entire summer, instead of completing it all in the first week of summer, or waiting until the last week of summer. This will help your child get the most out of the packet.

This year's summer packet has many "cheesy math riddle" worksheets. While the jokes are terrible, completing the puzzle part ensures the problems were done correctly. **The puzzle must be completed for full credit.** Students also need to show their work in an organized way, either on the worksheet if there is enough room, or on a separate sheet of paper.

The summer math packet will be collected (both the worksheets, and their work) on the first day of school. This packet will count as the first test grade of the quarter. If no work is shown, students will receive **no credit** for the page. If you have any questions at all, or if your child needs extra help, please feel free to contact me by email at [msfruitman@sfruitman.net](mailto:msfruitman@sfruitman.net). I hope you have a wonderful summer.

Sincerely,



Ms. Fruitman

**6-3****Study Guide and Intervention*****Adding and Subtracting Mixed Numbers***

To add or subtract mixed numbers:

1. Add or subtract the fractions. Rename using the LCD if necessary.
2. Add or subtract the whole numbers.
3. Simplify if necessary.

**EXAMPLE 1** Find  $14\frac{1}{2} + 18\frac{2}{3}$ .

$$-14\frac{1}{2} \rightarrow 14\frac{3}{6} \quad \text{Rename the fractions.}$$

$$+18\frac{2}{3} \rightarrow +18\frac{4}{6} \quad \text{Add the whole numbers and add the fractions.}$$

$$\underline{\hspace{1cm}} \quad \underline{\hspace{1cm}} \\ 32\frac{7}{6} \text{ or } 33\frac{1}{6} \quad \text{Simplify.}$$

**EXAMPLE 2** Find  $21 - 12\frac{5}{8}$ .

$$21 \rightarrow 20\frac{8}{8} \quad \text{Rename 21 as } 20\frac{8}{8}.$$

$$\underline{-12\frac{5}{8}} \rightarrow \underline{-12\frac{5}{8}} \quad \text{First subtract the whole numbers and then the fractions.}$$

$$\hspace{1.5cm} 8\frac{3}{8}$$

**EXERCISES**

Add or subtract. Write in simplest form.

1.  $7\frac{3}{4} + 2\frac{3}{4}$

2.  $14\frac{2}{9} - 6\frac{1}{9}$

3.  $9\frac{1}{5} - 4\frac{3}{4}$

4.  $7\frac{1}{8} + 5\frac{3}{8}$

5.  $7\frac{3}{4} + 2\frac{2}{3}$

6.  $5\frac{1}{2} - 5\frac{1}{3}$

7.  $5\frac{1}{2} - 3\frac{1}{4}$

8.  $6\frac{1}{3} + 2\frac{1}{6}$

9.  $9 - 3\frac{2}{5}$

10.  $2\frac{2}{3} + 7\frac{1}{2}$

11.  $6\frac{1}{2} - 6\frac{1}{3}$

12.  $18\frac{1}{2} + 5\frac{5}{8}$

## Dividing Fractions and Mixed Numbers

To divide by a fraction, multiply by its multiplicative inverse or reciprocal.

To divide by a mixed number, rename the mixed number as an improper fraction.

**EXAMPLE 1** Find  $3\frac{1}{3} \div \frac{2}{9}$ . Write in simplest form.

$$\begin{aligned} 3\frac{1}{3} \div \frac{2}{9} &= \frac{10}{3} \div \frac{2}{9} \\ &= \frac{10}{3} \cdot \frac{9}{2} \\ &= \frac{\cancel{10}^5}{\cancel{3}_1} \cdot \frac{\cancel{9}^3}{\cancel{2}_1} \\ &= 15 \end{aligned}$$

Rename  $3\frac{1}{3}$  as an improper fraction.

Multiply by the reciprocal of  $\frac{2}{9}$ , which is  $\frac{9}{2}$ .

Divide out common factors.

Multiply.

**EXERCISES**

Divide. Write in simplest form.

1.  $\frac{2}{3} \div \frac{1}{4}$

2.  $\frac{2}{5} \div \frac{5}{6}$

3.  $\frac{1}{2} \div \frac{1}{5}$

4.  $5 \div \frac{1}{2}$

5.  $\frac{5}{8} \div 10$

6.  $7\frac{1}{3} \div 2$

7.  $\frac{5}{6} \div 3\frac{1}{2}$

8.  $36 \div 1\frac{1}{2}$

9.  $2\frac{1}{2} \div 10$

10.  $5\frac{2}{5} \div 1\frac{4}{5}$

11.  $6\frac{2}{3} \div 3\frac{1}{9}$

12.  $4\frac{1}{4} \div \frac{3}{8}$

13.  $4\frac{6}{7} \div 2\frac{3}{7}$

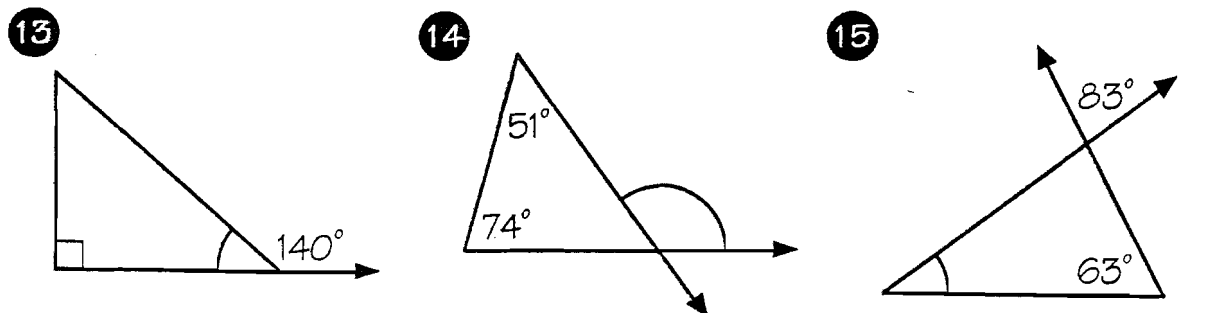
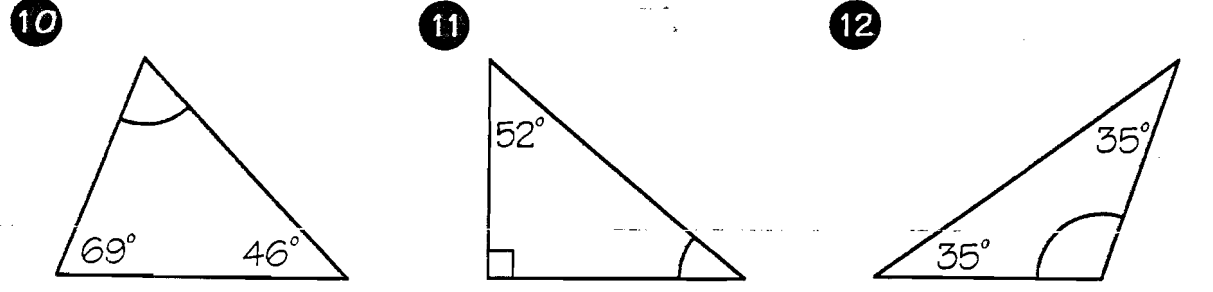
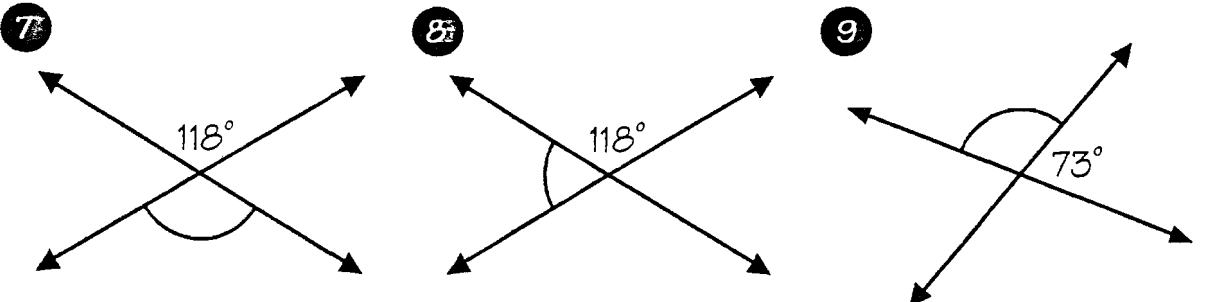
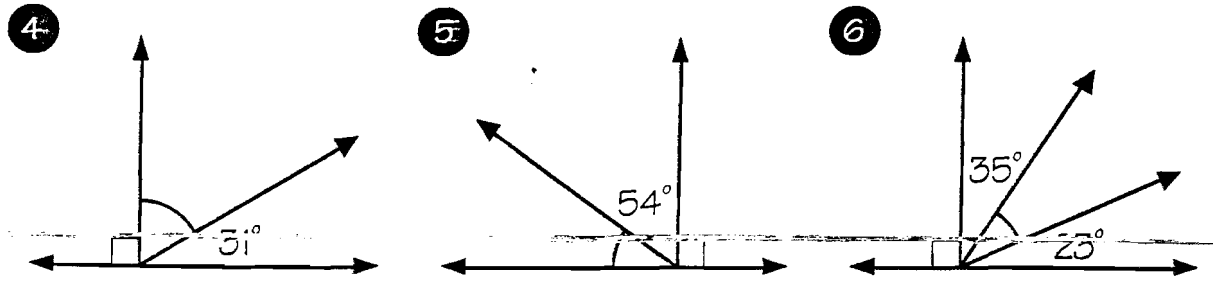
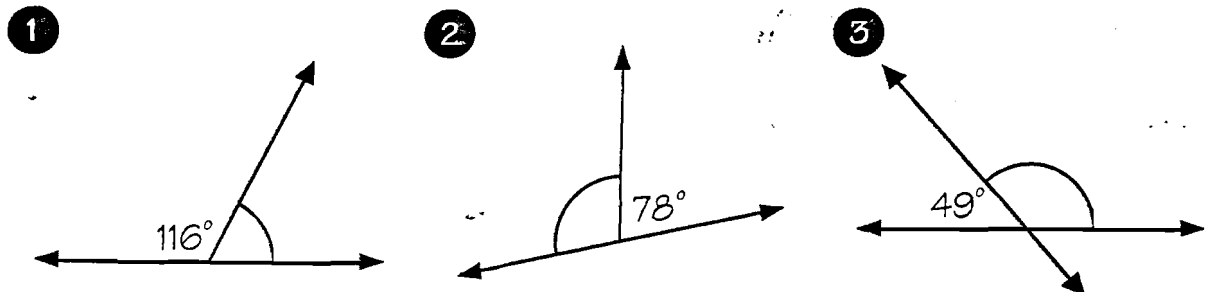
14.  $12 \div 2\frac{1}{2}$

15.  $4\frac{1}{6} \div 3\frac{1}{6}$

# How Do You Put a Baby Astronaut to Sleep?

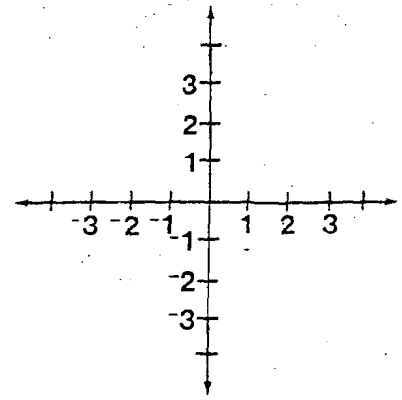
Using the given angle measures, find the angle measure indicated for each figure. Cross out the letter next to each correct answer. The answer to the title question will remain.

- |   |      |
|---|------|
| T | 44°  |
| D | 118° |
| A | 110° |
| E | 53°  |
| G | 102° |
| N | 36°  |
| I | 35°  |
| K | 122° |
| R | 125° |
| P | 131° |
| U | 62°  |
| C | 116° |
| A | 64°  |
| N | 38°  |
| O | 45°  |
| E | 34°  |
| T | 107° |
| I | 32°  |
| R | 28°  |
| O | 59°  |
| S | 40°  |



## THE SQUEEZE

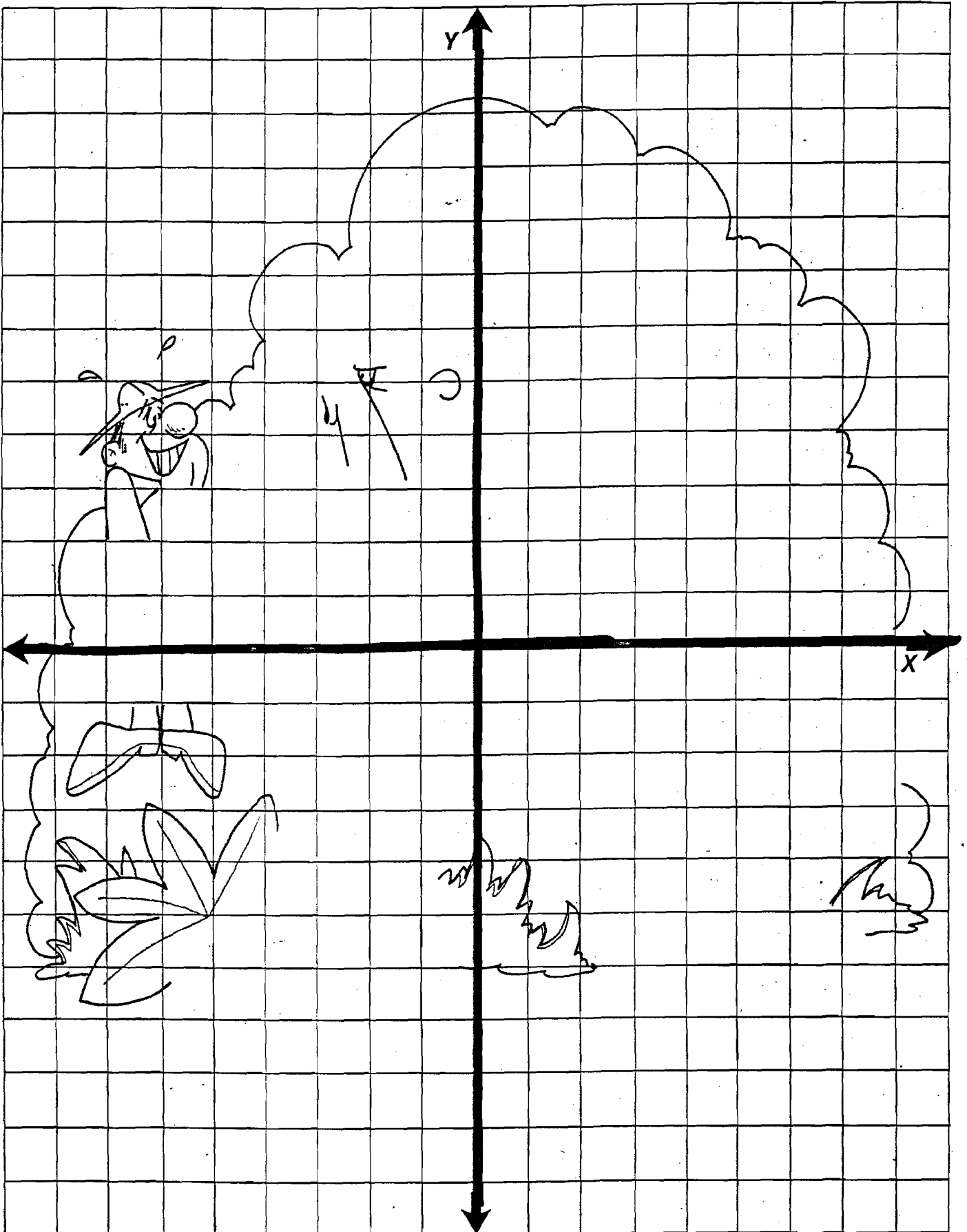
Using the arrows as guidelines, draw the axes on the graph on page 55. Number them as shown. You may wish to erase the axes when the drawing is finished.



Following the sequence of ordered pairs below, connect the corresponding points on the graph. When you reach the word STOP, lift your pencil and start again on the next point in the sequence.

- |  |  |   |   |
|--|--|---|---|
| <p>(1, 4)<br/>(-1, 4)<br/>(-4, -4)<br/>(-6, -6)<br/>(-5, -7)<br/>(-1, -7)<br/>(0, -5)<br/>(-1, -5)<br/>(0, -1)<br/>(1, 3)<br/>STOP</p> | <p>(0, -1)<br/>(1, -3)<br/>(4, -4)<br/>(5, -4)<br/>(5, -6)<br/>(3, -5)<br/>(2, -7)<br/>(8, -7)<br/>(6, -4)<br/>(8, -3)<br/>(8, 0)<br/>(3, 6)<br/>(0, 7)<br/>(-3, 5)<br/>(-3, 4)<br/>(-4, 2)<br/>(-3, 2)<br/>(-2, 1)<br/>(-3, 0)<br/>(-5, 2)<br/>(-5, -1)<br/>(-3, -2)<br/>STOP</p> | <p>(-5, 1)<br/>(-6, 1)<br/>(-6, 3)<br/>(-5, 3)<br/>(-5, 2)<br/>STOP</p> | <p>(-6, 2)<br/>(-7, 2)<br/>(-7, -1)<br/>(-5, -1)<br/>STOP</p> |
| <p>(-7, 1)<br/>(-6, 1)<br/>STOP</p>  | <p>(6, -3)<br/>(5, -4)<br/>STOP</p>  | <p>(6, -4)<br/>(7, -7)<br/>STOP</p>                                     | <p>(-5, 0)<br/>(-7, 0)<br/>STOP</p>                           |

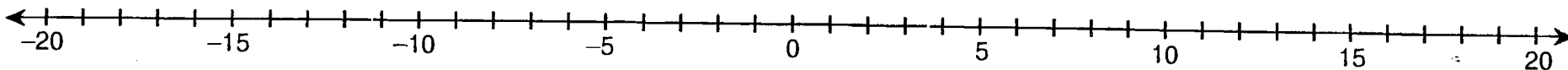
# THE SQUEEZE



# Why Do Flies Always Bring Their Stopwatches to Parties?



Write an integer for each exercise. Find the point on the number line that corresponds to the integer. Write the letter of the exercise above the number line at that point.



Write an integer for each situation.

- E** 3 units to the left of 0
- S** the opposite of 8
- N** 15 ft above sea level
- E** a gain of 6 yd
- I** 5° below zero
- N** a deposit of \$20
- E** 14 steps backward
- T** four seconds after liftoff
- I** a loss of ten pounds
- W** one floor down
- E** 19 m below sea level
- H** the opposite of -11

Write an integer for each expression.

- A**  $-(17)$
- I**  $-(-14)$
- E**  $|-1|$
- R**  $|8|$
- U**  $-n$  if  $n = 16$
- G**  $-n$  if  $n = -16$
- B**  $-(12 + 8)$
- H**  $|16 - 11|$
- E**  $-|9|$
- S**  $-|-15|$
- A**  $|x|$  if  $x = -12$
- F**  $-|x|$  if  $x = -12$

Write an integer for each question.

- N** Which is greater, 2 or  $-13$ ?
- T** Which is greater,  $-7$  or  $-6$ ?
- E** Which is greater,  $-11$  or 9?
- C** Which is less,  $-18$  or  $-4$ ?
- U** Which is less,  $|-20|$  or 19?
- H** Which is less, 0 or  $-(3)$ ?

The table below gives the starting point, direction, and length of arrows drawn on the number line. Complete the table by writing the endpoint of each arrow.

Starting Point	Direction, Length	Endpoint
0	negative, 4	<b>M</b>
-2	positive, 9	<b>Y</b>
-2	negative, 9	<b>L</b>
5	positive 13	<b>F</b>
-10	positive, 23	<b>V</b>

# Why Did Farmer John Ask the Supermarket Manager Where the Overalls Were?



Write the letter of each exercise in the box containing the answer.

Find the sum.

- E.  $-7 + (-2)$       O.  $-4 + 9$   
 A.  $-6 + (-8)$       T.  $-9 + 4$   
 I.  $-17 + (-10)$     S.  $38 + (-3)$   
 S.  $12 + 13$           E.  $11 + (-18)$   
 T.  $-75 + (-5)$       C.  $-24 + (-24)$

Find the sum.

- O.  $-64 + 60$       H.  $-18 + 8$   
 E.  $12 + (-36)$     M.  $-45 + (-45)$   
 A.  $-15 + 18$       T.  $52 + (-58)$   
 V.  $101 + (-2)$     H.  $180 + 180$   
 R.  $-30 + (-40)$     L.  $999 + (-999)$

-5	-10	-24	-19	25	-6	5	-70	-9	92	-48	0	3	-27	-90	35	-8	-80	-4	41	360	-14	99	-7
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Find the sum.

- E.  $-10 + (-1)$       L.  $9 + (-39)$   
 S.  $-24 + 6$         E.  $-32 + 64$   
 T.  $60 + (-15)$     O.  $88 + (-55)$   
 I.  $-7 + (-21)$     T.  $-100 + 25$

Evaluate if  $a = 7$ ,  $b = -20$ ,  $x = -34$ ,  $y = -9$ .

- R.  $a + b$             A.  $x + y$   
 S.  $b + b$             C.  $x + x$   
 P.  $-12 + a$         B.  $100 + y$   
 E.  $b + 81$           R.  $x + 50$

Solve.

- H. The price of a stock went down \$4.25 on Monday and then down \$2.75 on Tuesday. What was the overall change in price for the two days?  
 E. Between midnight and 6:00 A.M., the temperature dropped  $10^{\circ}\text{F}$ . Between 6:00 A.M. and noon, the temperature rose  $18^{\circ}\text{F}$ . What was the change in temperature from midnight to noon?

Scores for three rounds of a computer game are given in the table. Solve.

- L. What was the total number of points scored in the first two rounds?  
 V. What was the total number of points scored in all three rounds?

Round	Points
1	300
2	-800
3	700

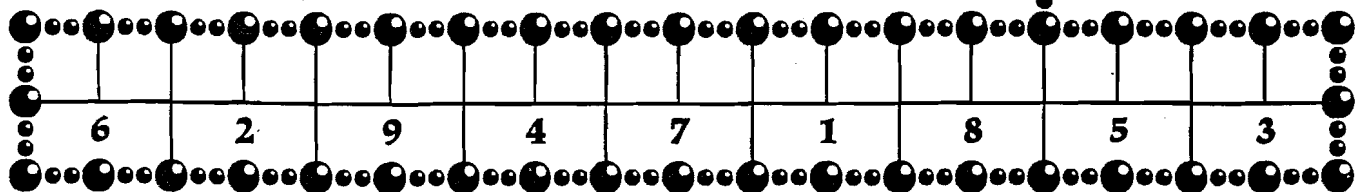
-75	-\$7	61	-\$9	91	32	-40	45	$5^{\circ}\text{F}$	33	200	-11	-13	-43	-500	-30	74	-5	16	-28	-68	$8^{\circ}\text{F}$	-18
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# When Do Super Heroes Use Decimals?

Solve each problem. Find your solution and note the two letters next to it. Write these letters in the two boxes above the exercise number at the bottom of the page.

- 1 A ceramics teacher divided 20 kg of clay as equally as possible among the 29 students in her class. About how much clay did each student get?
- 2 Juan worked 2.5 hours each day from Monday through Friday plus 7.5 hours on Saturday. His total pay for the week was \$128. How much did he earn per hour?
- 3 A pack of construction paper is 0.6 cm thick. If there are 24 sheets in the pack, how thick is each sheet?
- 4 The 26-oz jar of chocolate fudge costs \$3.12. The 16-oz jar costs \$2.40. How much can you save on each ounce by choosing the better buy?
- 5 The front and back covers of a textbook are each 0.3 cm thick. Between the covers are 240 sheets of paper each 0.008 cm thick. How high is a stack of 10 books?
- 6 The winner of a marathon ran 26.2 mi in 2 h 14 min. Find the average number of minutes for each mile. (1 h = 60 min)
- 7 At the beginning of his vacation, the odometer on Mike's car read 8546.3 mi. At the end of the vacation, the odometer read 9834.9 mi. If Mike used 65.4 gal of gas on his vacation, how many miles did he travel on each gallon?
- 8 Megan likes to jog around a duck pond near her house. The distance around the pond is 0.4 mi. How many laps around the pond are necessary to run 5 mi?
- 9 **WORLD RECORD:** Alfred Wolfram set a record when he kissed 8,001 people in 8 hours at the Minnesota Renaissance Festival. To the nearest tenth, how many seconds did he average for each kiss? (1 h = 3600 s)

T	H	5.4 min
M	O	9.2
T	H	\$0.03
S	S	19.7 mi
U	P	29.4 cm
E	N	3.6 s
I	T	0.7 kg
O	L	\$7.10
I	N	5.1 min
O	N	0.025 cm
O	O	4.3 s
U	A	12.5
A	T	18.5 mi
T	I	25.2 cm
E	D	\$0.05
A	T	\$6.40
E	R	0.5 kg



# Why Aren't Dragons Hungry on Weekends?



Find each answer in the adjacent answer column. Write the letter of the answer in the box containing the number of the exercise.

In exercises 1-12, write the prime factorization of the given number.

<b>1</b>	28	<b>2</b>	45	<b>3</b>	88	<b>V</b>	$3^2 \cdot 7$
						<b>E</b>	$2^3 \cdot 11$
						<b>T</b>	$2^2 \cdot 7$
						<b>L</b>	$2^3 \cdot 3$
						<b>A</b>	$3^2 \cdot 5$
<b>4</b>	100	<b>5</b>	170	<b>6</b>	81	<b>T</b>	$2 \cdot 5 \cdot 17$
						<b>C</b>	$2^3 \cdot 11$
						<b>K</b>	$3^4$
						<b>H</b>	$2^2 \cdot 5^2$
						<b>R</b>	$2 \cdot 3^2 \cdot 5$
<b>7</b>	144	<b>8</b>	650	<b>9</b>	147	<b>M</b>	$2^3 \cdot 13$
						<b>G</b>	$2 \cdot 5^2 \cdot 13$
						<b>U</b>	$2 \cdot 5 \cdot 19$
						<b>N</b>	$3 \cdot 7^2$
						<b>E</b>	$2^4 \cdot 3^2$
<b>10</b>	64	<b>11</b>	135	<b>12</b>	250	<b>K</b>	$2 \cdot 5^3$
						<b>S</b>	$2^6$
						<b>P</b>	$2^4 \cdot 3$
						<b>A</b>	$3^3 \cdot 5$
						<b>D</b>	$2 \cdot 3 \cdot 5^2$

In exercises 13-22, write the product.

<b>13</b>	$2 \cdot 2 \cdot 2 \cdot 3 \cdot x$	<b>O</b>	$50x^2$	<b>18</b>	$2 \cdot 5^2 \cdot a^2$	<b>W</b>	$-625a^5b$
<b>14</b>	$2 \cdot 5 \cdot 5 \cdot x \cdot x$	<b>E</b>	$-95x^2y^3$	<b>19</b>	$-1 \cdot 3^4 \cdot a \cdot b^3$	<b>L</b>	$99a^2b^2$
<b>15</b>	$3 \cdot 3 \cdot 7 \cdot x \cdot y \cdot y \cdot y \cdot y$	<b>R</b>	$-48x^2y$	<b>20</b>	$2^3 \cdot 7 \cdot a^2 \cdot b^2$	<b>F</b>	$50a^2$
<b>16</b>	$-1 \cdot 2 \cdot 2 \cdot 11 \cdot x \cdot x \cdot x \cdot y$	<b>Y</b>	$24x$	<b>21</b>	$-1 \cdot 5^4 \cdot a^5 \cdot b$	<b>N</b>	$99a^2b^4$
<b>17</b>	$-1 \cdot 5 \cdot 19 \cdot x \cdot x \cdot y \cdot y \cdot y$	<b>I</b>	$63xy^4$	<b>22</b>	$3^2 \cdot 11 \cdot a^2 \cdot b^4$	<b>S</b>	$56a^2b^2$
		<b>B</b>	$-85x^2y^4$			<b>E</b>	$-625ab^3$
		<b>H</b>	$-44x^3y$			<b>T</b>	$-81ab^3$

5	16	7	13	18	3	11	20	1	14	9	21	17	2	6	12	22	15	8	4	19	10
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# Books Never Written

- *World's Most Fun Algebra Problems* by

5.6 67.5 10.5 10.5 6.9 2.5 4.4 15.8 4.4 13.3 140 140  $\frac{ac}{b}$  140 4.9  $\frac{ab}{c}$  2.5

- *Your Dad at the Beach - First Aid Tips* by

75.4 17.0 70 10.5 13.3 6.1 3.7 20.4 67.5 70 2.5 35.2 12 2.8 17.0 26.7 6.1 70

Find each solution in the code. Each time it appears, write the letter of the exercise above it.

Solve the proportion. Round to the nearest tenth.

**H**  $\frac{4}{7} = \frac{n}{12}$

**A**  $\frac{x}{9} = \frac{15}{2}$

**N**  $\frac{8}{a} = \frac{30}{23}$

**Y**  $\frac{5}{16} = \frac{11}{y}$

**O**  $\frac{2.5}{9.2} = \frac{k}{18}$

**E**  $\frac{20}{8.7} = \frac{5.8}{m}$

**U**  $\frac{29}{u} = \frac{75}{44}$

**C**  $\frac{b}{0.6} = \frac{17}{0.5}$

**I**  $\frac{100}{62.5} = \frac{t}{8.3}$

**M**  $\frac{v}{7.5} = \frac{7.5}{10}$

**B**  $\frac{9.47}{p} = \frac{3.33}{1}$

**J**  $\frac{1}{3.14} = \frac{24}{q}$

Write the sentence as a proportion. Then solve for x.

- W** x is to 8 as 5 is to 9      **R** 4 is to 3 as x is to 20      **V** x is to a as b is to c

Solve mentally.

A color called Passion Pink is made by mixing red paint and white paint in a ratio of 2 to 7. How many drops of white paint do you need:

**S** If you use 20 drops of red paint?

**L** If you use 40 drops of red paint?

**T** If you use 3 drops of red paint?



# What Did the Detectives Say to the Crook?

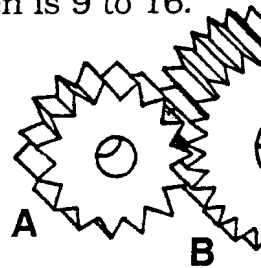
Solve each problem and find your solution in the answer column. Note the two letters next to it. Write these letters in the two boxes above the exercise number at the bottom of the page.



**1** To make his special salad dressing, Wolfgang combines 7 fl oz of oil with 4 fl oz of vinegar. One day he needed a larger amount, so he used 8 fl oz of oil. How much vinegar did he need?

**2** The ratio of height to width for a TV screen is 9 to 16. How high is a screen that is 30 in. wide?

**3** GEAR RATIO. The ratio of the number of teeth on Gear A to the number of teeth on Gear B is 5 to 12. How many teeth are on Gear B?  
(Hint: Count the teeth on Gear A.)



**4** Jessica checked her gas mileage and found that she had used 17.4 gal of gas to travel 392 mi. At this rate, how many gallons will she use to travel from Los Angeles to Miami, a distance of 2,735 mi?

**5** If there are 95 g of fat in 16 oz of ground beef, how much fat is in 3 oz of ground beef?

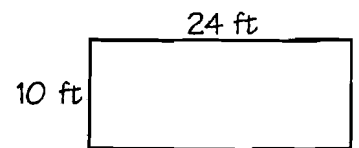
**6** A locomotive is 56 ft long and 11 ft wide. A special effects designer makes a model that is 18 in. long. How wide should it be?

**7** The Screaming Equals' team color is made by mixing red paint with blue paint in a ratio of 12 to 7. How much blue paint should be mixed with 4 gal of red?

**8** A marathon runner ran the first 3 mi in 17.2 min. If she continues running at this pace, how long will it take her to run the entire marathon of 26.2 mi?

**9** SOLAR SYSTEM MODEL. The sun has a diameter of 870,000 mi. The Earth has a diameter of 8,000 mi. If a 24-cm-diameter basketball is used as a model sun, what should be the diameter of the model Earth?

**10** If it took 1.5 qt of paint to paint the wall on the left, how many quarts will be needed to paint the wall on the right?



answers

**ST** 153.4 mir.

**WE** 36

**ES** 4.9 in.

**ET** 2.3 gal

**DR** 18.3 g

**OS** 0.7 cm

**OL** 3 qt

**IC** 4.6 fl oz

**TH** 42

**OM** 121.4 gal

**AN** 2.5 gal

**OU** 3.5 in.

**GO** 5.2 fl oz

**AR** 150.2 min

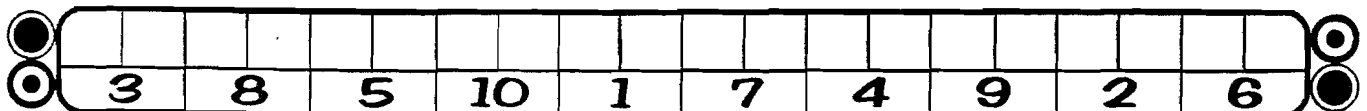
**TY** 16.9 in.

**UN** 2.8 qt

**EP** 17.8 g

**EE** 0.2 cm

**LL** 124.5 gal



# What Were the Crash Dummy's Last Words?

For each set of exercises, there is one extra answer. Write the letter of this answer in the corresponding box at the right.

10	2	5	8	11	1	7	4	12	3	9	6
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In Sets 1-3, write each percent as a fraction in lowest terms.

<p><b>• 1 •</b></p> <p>a. 40%</p> <p>b. 55%</p> <p>c. 2%</p> <p>d. 36%</p>	<p>(P) <math>\frac{1}{50}</math></p> <p>(E) <math>\frac{9}{20}</math></p> <p>(U) <math>\frac{2}{5}</math></p> <p>(F) <math>\frac{9}{25}</math></p> <p>(Y) <math>\frac{11}{20}</math></p>	<p><b>• 2 •</b></p> <p>a. 75%</p> <p>b. 88%</p> <p>c. 30%</p> <p>d. 43%</p>	<p>(J) <math>\frac{43}{100}</math></p> <p>(L) <math>\frac{3}{4}</math></p> <p>(I) <math>\frac{19}{50}</math></p> <p>(O) <math>\frac{22}{25}</math></p> <p>(C) <math>\frac{3}{10}</math></p>	<p><b>• 3 •</b></p> <p>a. 62%</p> <p>b. 150%</p> <p>c. 225%</p> <p>d. 7%</p>	<p>(T) <math>\frac{3}{2}</math></p> <p>(C) <math>\frac{7}{100}</math></p> <p>(N) <math>\frac{9}{4}</math></p> <p>(S) <math>\frac{31}{50}</math></p> <p>(A) <math>\frac{7}{4}</math></p>
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In Sets 4-6, write each fraction as a percent.

<p><b>• 4 •</b></p> <p>a. <math>\frac{19}{100}</math></p> <p>b. <math>\frac{7}{20}</math></p> <p>c. <math>\frac{33}{50}</math></p> <p>d. <math>\frac{24}{25}</math></p>	<p>(B) 88%</p> <p>(M) 96%</p> <p>(H) 35%</p> <p>(G) 66%</p> <p>(O) 19%</p>	<p><b>• 5 •</b></p> <p>a. <math>\frac{3}{5}</math></p> <p>b. <math>\frac{5}{4}</math></p> <p>c. <math>\frac{17}{10}</math></p> <p>d. <math>\frac{1}{20}</math></p>	<p>(D) 125%</p> <p>(F) 5%</p> <p>(L) 60%</p> <p>(V) 17%</p> <p>(Y) 170%</p>	<p><b>• 6 •</b></p> <p>a. <math>\frac{18}{200}</math></p> <p>b. <math>\frac{3}{200}</math></p> <p>c. <math>\frac{75}{300}</math></p> <p>d. <math>\frac{5}{2}</math></p>	<p>(N) 25%</p> <p>(E) 125%</p> <p>(P) 1.5%</p> <p>(S) 9%</p> <p>(W) 250%</p>
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In Sets 7-9, write each decimal as a percent.

<p><b>• 7 •</b></p> <p>a. 0.44</p> <p>b. 0.09</p> <p>c. 0.044</p> <p>d. 0.9</p>	<p>(H) 4.4%</p> <p>(D) 44%</p> <p>(N) 90%</p> <p>(C) 9%</p> <p>(A) 0.9%</p>	<p><b>• 8 •</b></p> <p>a. 0.75</p> <p>b. 0.3</p> <p>c. 0.075</p> <p>d. 0.03</p>	<p>(E) 300%</p> <p>(O) 3%</p> <p>(L) 7.5%</p> <p>(I) 75%</p> <p>(U) 30%</p>	<p><b>• 9 •</b></p> <p>a. 0.038</p> <p>b. 3.8</p> <p>c. 0.05</p> <p>d. 0.005</p>	<p>(N) 3.8%</p> <p>(S) 0.5%</p> <p>(K) 50%</p> <p>(D) 380%</p> <p>(T) 5%</p>
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In Sets 10-12, write each percent as a decimal.

<p><b>• 10 •</b></p> <p>a. 66%</p> <p>b. 40%</p> <p>c. 6.6%</p> <p>d. 4%</p>	<p>(D) 0.066</p> <p>(G) 6.6</p> <p>(L) 0.04</p> <p>(R) 0.4</p> <p>(F) 0.66</p>	<p><b>• 11 •</b></p> <p>a. 37.5%</p> <p>b. 2%</p> <p>c. 0.2%</p> <p>d. 375%</p>	<p>(B) 0.002</p> <p>(S) 0.375</p> <p>(P) 0.02</p> <p>(M) 0.2</p> <p>(W) 3.75</p>	<p><b>• 12 •</b></p> <p>a. <math>8\frac{1}{2}\%</math></p> <p>b. 400%</p> <p>c. 110%</p> <p>d. 0.4%</p>	<p>(R) 0.4</p> <p>(L) 4</p> <p>(E) 0.004</p> <p>(O) 0.085</p> <p>(F) 1.1</p>
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# Why Doesn't Gonzo Glomgold Brush His Teeth with Gunpowder?

**I** Use the table to evaluate each expression. Write the letter of the exercise in the box containing the value.

E.  $7x$

T.  $3x + 1$

$a = 3$	$x = 2$	$n = 10$
$b = 4$	$y = 5$	$m = 12$

S.  $16y$

A.  $6n - 4$

$a = 3$	$x = 2$	$n = 10$
$b = 4$	$y = 5$	$m = 12$

A.  $ab$

H.  $\frac{2m}{3}$

E.  $7ab$

G.  $nx$

I.  $7 + 2y$

D.  $100 - 3y$

H.  $20 - b$

F.  $5a - 9$

M.  $9n - 4m$

L.  $\frac{m}{a}$

H.  $\frac{ny}{25}$

R.  $ax + by$

16	84	80	72	56	6	26	12	4	85	33	8	14	49	42	17	20	2	7
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**II** Write an expression for each exercise. Write the letter of the exercise in the box containing the expression.

O. 6 times a number  $n$

S. the product of a number  $n$  and 9

T. the sum of a number  $x$  and 15

O. 40 divided by a number  $x$

S. a number  $n$  divided by 12

L. 6 minus a number  $n$

O. the product of 8 and a number  $x$

F. the sum of 8 and a number  $x$

H. 3 more than a number  $n$

H. 9 more than a number  $n$

F. 3 less than a number  $x$

M. 15 less than a number  $x$

O. 3 decreased by a number  $n$

T. 12 decreased by a number  $n$

U. a number  $x$  decreased by 40

H. 15 decreased by a number  $x$

$9n$	$n + 9$	$6n$	$3 - n$	$12 - n$	$n + 12$	$n + 3$	$6 - n$	$\frac{n}{12}$
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$x - 15$	$8x$	$x - 40$	$x + 15$	$15 - x$	$\frac{x}{3}$	$\frac{40}{x}$	$x - 3$	$8 + x$
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# Did You Hear About . . .

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
									<b>?</b>

Answers 1-10

- 125% • NEEDED
- 92.7 g • BOOTS
- 27.2% • HIKER
- 34.4% • DAY
- 864.2 km • SOME
- 95.2 g • REALIZED
- 2140.5 ft • IF
- 53.3% • THE
- 888.9 km • HE
- 68% • WAS
- 36.1 g • GLASSES
- 72.5 oz • THERE
- 1980 ft • WHO
- 31.5% • LADY
- 2857.1 ft • ONE
- 69.4 oz • THAT



Write the word next to each correct answer in the box that contains the exercise number (some answers are rounded).



1. 40 lb is what percent of 75 lb?
2. What percent of 9.2 m is 2.5 m?
3. Find 37.5% of 5280 ft.
4. What is 140% of 68 g?
5. 72% of what weight is 50 oz?
6. 80 km is 9% of what distance?
7. 150 volts is what percent of 120 volts?
8. Find 3.8% of 950 g.
9. 7% of what length is 200 ft?
10. 344 out of 1000 students is what percent?

11. What is 40% of 360°?
12. 56 bananas is what percent of 80 bananas?
13. 30% of what distance is 5.8 mi?
14. Find 3.25% of \$399.
15. 3 out of 750 light bulbs is what percent?
16. 22 elephants is 65% of what number of elephants?
17. 250% of 9.4 mi is what distance?
18. \$12.93 is what percent of \$172.40?
19. 150% of what length is 66 cm?
20. 36 jelly donuts is 200% of how many jelly donuts?

Answers 11-20

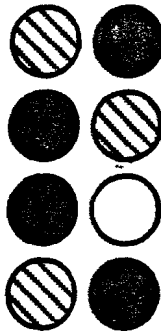
- 32 • MOSQUITOES
- 0.4% • KILL
- 144° • WHEN
- 48 cm • HIS
- 23.5 ml • STICK
- \$34.58 • HITTING
- 18 • SNAKE
- 19.3 mi • TRIED
- 135° • BECAUSE
- 34 • A
- 5.8% • BY
- 44 cm • A
- \$32.92 • TO
- 21.8 mi • BEAR
- 7.5% • WITH
- 70% • HE

# What Can You Say About Playing Professional Hockey?

Do each exercise and find your answer in the set of answers under that exercise. Cross out the letter above each correct answer.

1. Find each probability if you choose one marble at random.

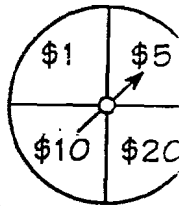
- a.  $P(\text{white})$
- b.  $P(\text{black})$
- c.  $P(\text{striped})$
- d.  $P(\text{not white})$
- e.  $P(\text{white or black})$



2. Suppose you roll a regular 6-faced die 600 times. About how many times would you expect to get:

- a. a 4?
- b. an odd number?

3. If you spin the spinner once, what's the probability that it will stop on \$20?



4. If you spin this spinner 100 times, about how many times would you expect it to stop on \$20?

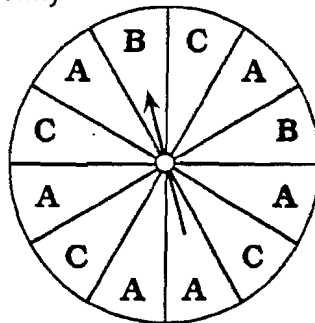
5. Suppose a bag contains 7 purple cubes, 3 green cubes, and 5 yellow cubes. Find each probability if you choose one cube at random.

- a.  $P(\text{purple})$
- b.  $P(\text{green})$
- c.  $P(\text{yellow})$
- d.  $P(\text{not green})$

<b>T</b>	<b>H</b>	<b>I</b>	<b>S</b>	<b>A</b>	<b>T</b>	<b>R</b>	<b>E</b>	<b>A</b>	<b>S</b>	<b>T</b>	<b>O</b>	<b>A</b>	<b>R</b>	<b>O</b>	<b>U</b>	<b>N</b>	<b>D</b>
$\frac{5}{8}$	$\frac{1}{3}$	$\frac{2}{5}$	25	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{7}{8}$	$\frac{4}{5}$	$\frac{1}{4}$	150	$\frac{1}{5}$	$\frac{1}{8}$	$\frac{11}{15}$	$\frac{7}{15}$	100	$\frac{3}{8}$	40	300

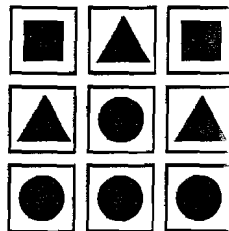
6. Find each probability if you spin the spinner once.

- a.  $P(A)$
- b.  $P(B)$
- c.  $P(C)$



8. Find each probability if you choose one card at random.

- a.  $P(\text{circle})$
- b.  $P(\text{circle or square})$



7. Suppose you spin this spinner 60 times. About how many times would you expect it to stop on:

- a. A?
- b. B?
- c. C?

9. A traffic signal is green for 20 seconds, then yellow for 5 seconds, then red for 25 seconds. When you reach the signal, what is the probability it is green?

10. If you toss a coin 1000 times, about how many heads would you expect?

<b>P</b>	<b>I</b>	<b>N</b>	<b>S</b>	<b>C</b>	<b>O</b>	<b>R</b>	<b>E</b>	<b>J</b>	<b>A</b>	<b>R</b>	<b>O</b>	<b>N</b>	<b>I</b>	<b>B</b>	<b>E</b>
$\frac{4}{9}$	$\frac{3}{4}$	500	$\frac{1}{3}$	250	20	$\frac{2}{5}$	$\frac{3}{10}$	25	$\frac{1}{2}$	10	40	$\frac{2}{3}$	$\frac{1}{6}$	$\frac{3}{5}$	30