Exponents - Skill #15

Write in expanded form.

① $5^3 =$ $5 \cdot 5 \cdot 5$

② $4^5 =$ $4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$

③ $2^5 =$ $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$

④ $3^4 =$ $3 \cdot 3 \cdot 3 \cdot 3$

Solve:

⑤ $2^5 = 32$

⑥ $5^3 = 125$

⑦ $10^5 = 100{,}000$

⑧ $(-1)^5 = -1$

⑨ $4^2 = 16$

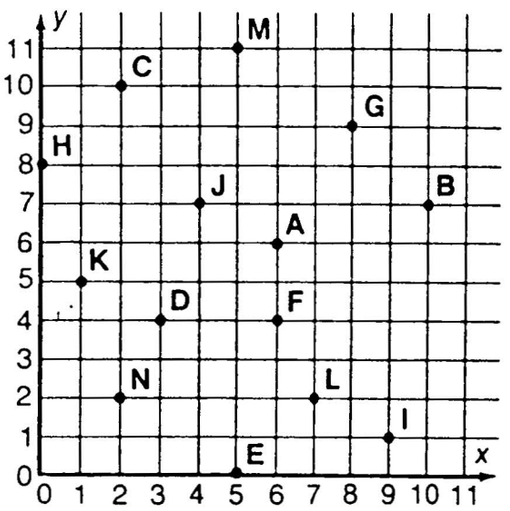
⑩ $3^3 = 27$

Pg #84

Name SKILL #[illegible]

Give the coordinates of:

1. M (5,11)
2. J (4,7)
3. E (5,0)
4. L (7,2)
5. B (10,7)
6. H (0,8)

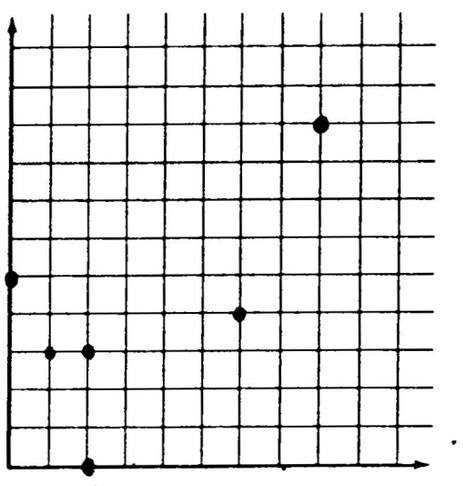


Name the point with the given coordinates.

7. (1, 5) K
8. (2, 10) C
9. (6, 6) A
10. (3, 4) D
11. (8, 9) G
12. (9, 1) I

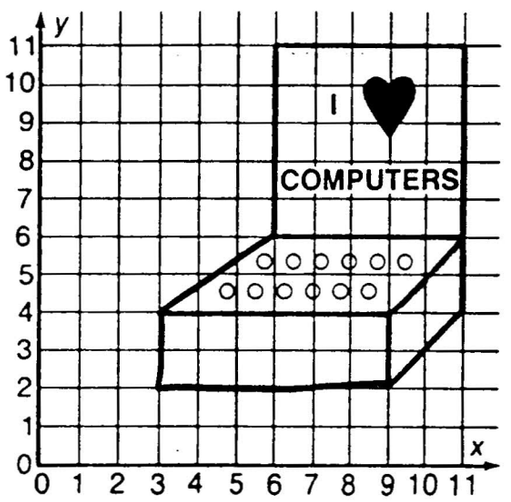
Label the x-axis and the y-axis on the grid below. Graph these points and label them with the ordered pairs.

13. (2, 3)
14. (0, 5)
15. (6, 4)
16. (2, 0)
17. (1, 3)
18. (8, 9)



Complete the picture below by drawing the lines that begin and end with these points.

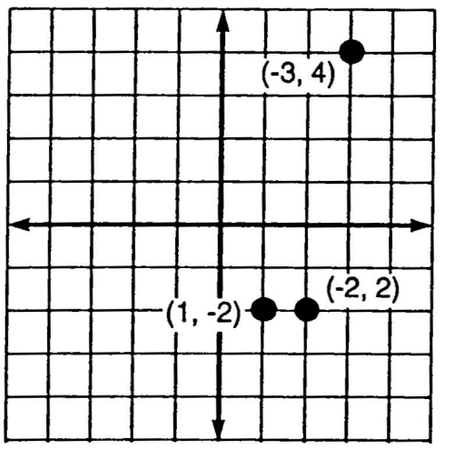
19. (9, 4) to (11, 6)
20. (3, 2) to (3, 4)
21. (3, 2) to (9, 2)



Name Skill #16

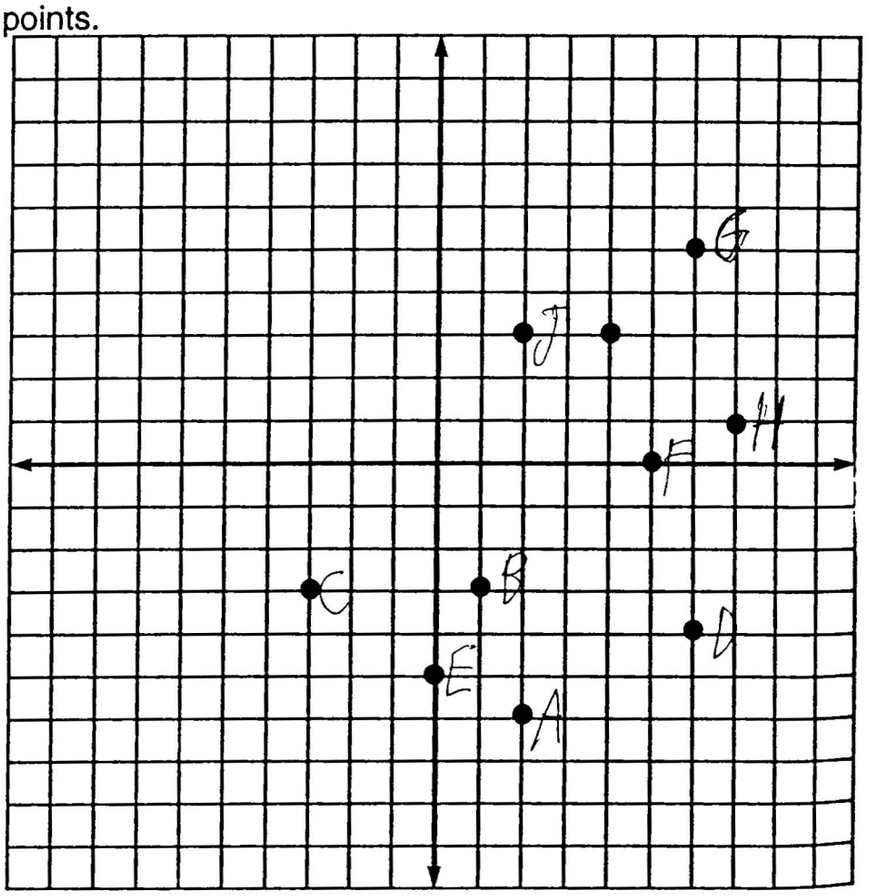
Plotting Points

(x,y) = (1, -2) Over 1 and down 2
(x,y) = (-3, 4) Over 3 and up 4
(x,y) = (2, -2) Over 2 and down 2



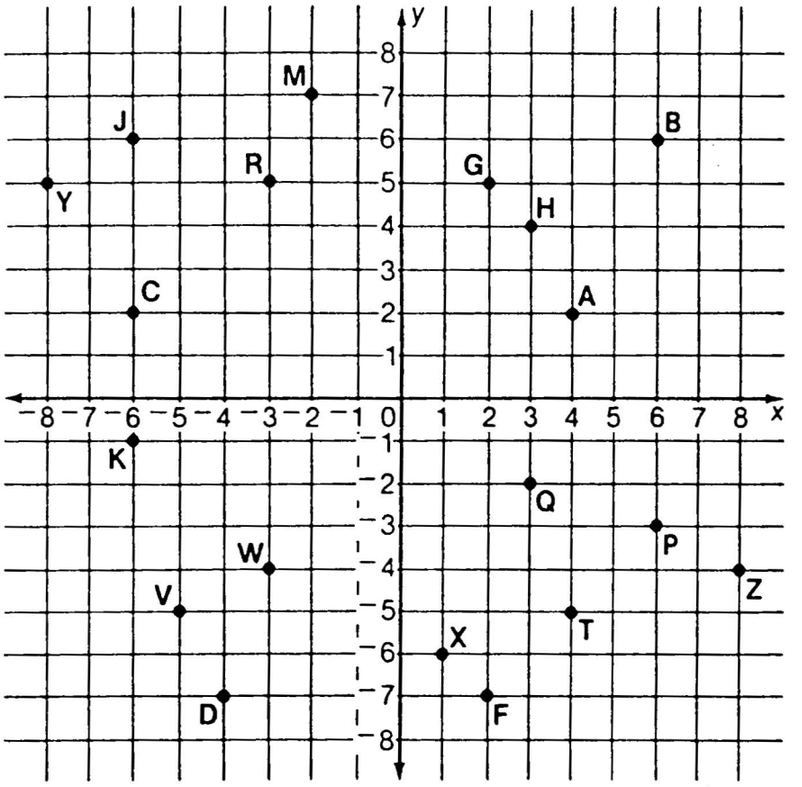
Identify the following points.

A (2, -6)
B (1, -3)
C (-3, -3)
D (6, -4)
E (0, -5)
F (5 , 0)
G (6, 5)
H (7, 1)
I (4, 3)
J (2, 3)



Pg #86

Captain Roman's video screen shows ships of his Star Fleet at these locations.



A. Which Star Ship is located at $(-3, -4)$?

Start at the origin.
Move left 3 units. Move down 4 units.

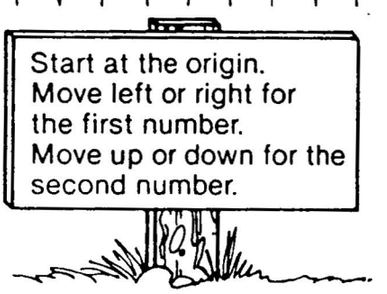
$\leftarrow \quad \downarrow$

$(-3, -4)$

Star Ship W is located at $(-3, -4)$.

B. Report the location of Star Ship Q.

Star ship Q is located at $(3, -2)$.



Name the Star Ship located by each ordered pair.

1. $(3, 4)$ H
2. $(-6, 2)$ C
3. $(8, -4)$ Z
4. $(2, 5)$ G
5. $(-6, -1)$ K
6. $(-6, 6)$ J
7. $(2, -7)$ F
8. $(4, 2)$ A

Report the location of each Star Ship by using ordered pairs.

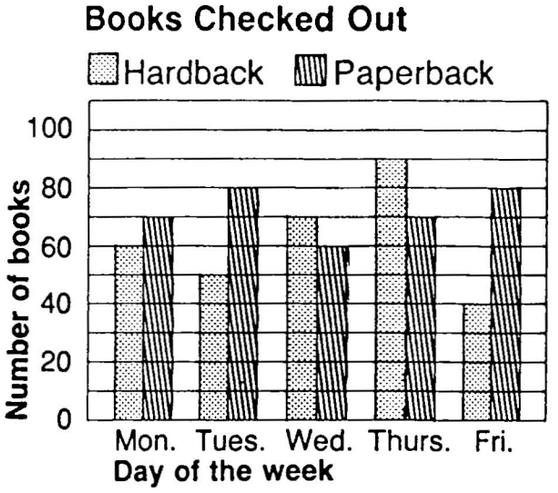
9. C $(-6, 2)$
10. D $(-4, -7)$
11. K $(-6, -1)$
12. M $(-2, 7)$
13. Y $(-8, 5)$
14. R $(-3, 5)$
15. X $(1, -6)$
16. B $(6, 6)$
17. V $(-5, -5)$
18. P $(6, -3)$
19. J $(-6, 6)$
20. T $(4, -5)$

Pg. #87

Name Skill #16

P106

Use the double bar graph to find the number of books checked out each day.



1. Paperbacks on Tuesday 80
2. Hardbacks on Monday 60
3. Hardbacks on Friday 40
4. Paperbacks on Friday 80
5. Paperbacks on Wednesday 60
6. Hardbacks on Tuesday 50
7. Total books on Tuesday 130
8. Total books on Friday 120
9. Total books on Thursday 160
10. Total books on Monday 130
11. On which days were more than 70 paperback books checked out?

    Tuesday and Friday

12. On which days were more hardback books than paperback books checked out?

    wednesday and Thursday

13. What is the range of the data for hardback books?

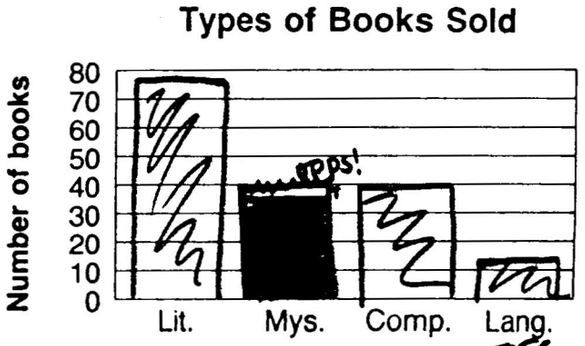
    50

14. What is the range of the data for paperback books?

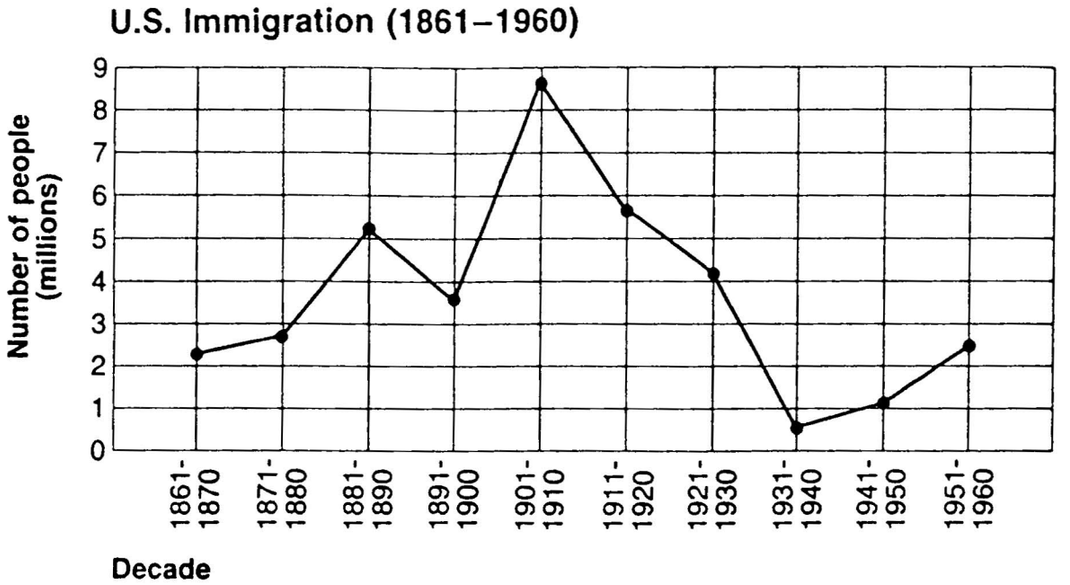
    20

15. A clerk was asked to keep a record of the number of certain kinds of books sold during one week. Make a bar graph for his data.

    Literature 78
    Mystery 35
    Computers 40
    Languages 12



Name Skill #16



Use the graph to answer each question.

In which decade was immigration about

1. 4 million? 1921-1930

2. 6 million? 1911-1920

About how many people immigrated in the decade

3. 1871–1880? 3 million

4. 1881–1890? 5 million

5. 1941–1950? 1 million

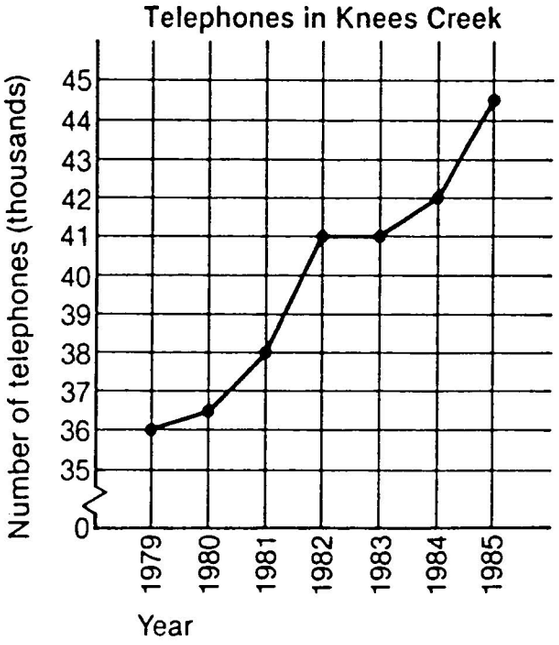
6. 1951–1960? 2 million

7. What is the range for the data? 8 million

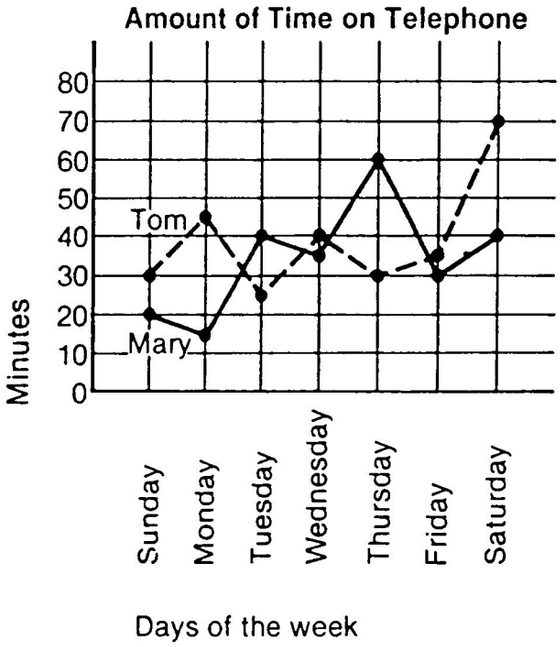
8. During which decade did immigration increase the most? 1901-1910

Name Skill #16

A. The ***broken-line graph*** below shows the number of phones in the town of Knees Creek.



B. Mrs. Lee recorded the amount of time Mary and Tom spent on the phone during one week.



Use the graph in Example A.

1. In which year were there about 36,500 telephones in Knees Creek? 1980

2. How many telephones were there in Knees Creek in 1984? 42,000

3. What is the range of the data? 8,500

Use the graph in Example B.

4. On which day did Mary talk on the telephone for 60 minutes? Thursday

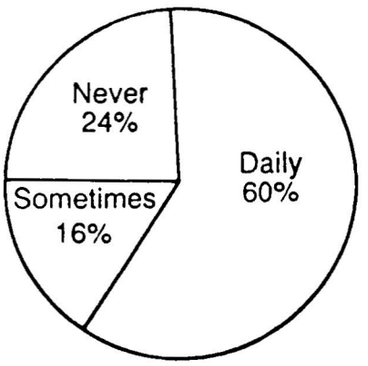
5. How long did Tom talk on the telephone on Monday? 45 minutes

6. On which days did Mary talk longer on the phone than Tom? Tues and Thurs.

Name Skill #16

The graphs show results of a general population survey of health habits.

Do You Eat Breakfast?



1. About how many people would you expect to eat breakfast daily in a town of 20,000?

   12,000 people

2. About how many people would you expect to sometimes eat breakfast in a city of 500,000?

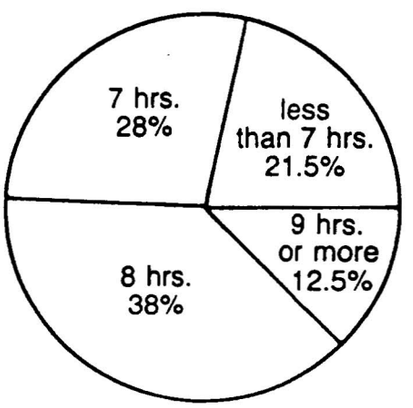
   80,000 people

3. How many degrees are in the central angle for 60%?

   216°

In a city of 1,500,000 people, how many would you expect to get

How Many Hours Do You Sleep per Day?



4. less than 7 hours of sleep per day?

   322,500 people

5. 7 hours of sleep per day?

   420,000 people

6. 8 hours of sleep per day?

   570,000 people

7. 9 or more hours of sleep per day?

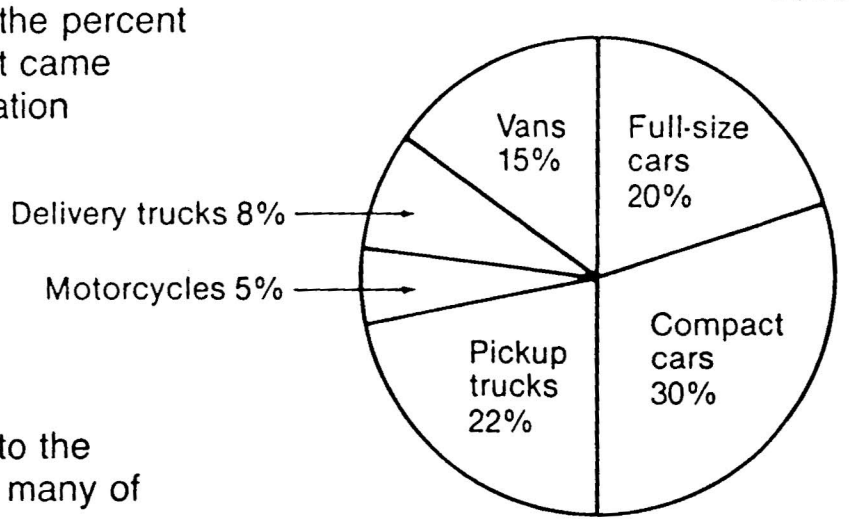
   187,500 people

8. How many degrees are in the central angle for 12.5%?

   45°

Name _____ Date 5-11 + 16

This circle graph show the percent of different vehicles that came to the Petro Service Station last month.



Find each percent of 4,000.

If 4,000 vehicles came to the station last month, how many of them were

1. compact cars?

$0.30 \times 4{,}000 =$ 1,200

2. delivery trucks?

$0.08 \times 4{,}000 =$ 320

3. vans?

600

4. full-size cars?

800

5. motorcycles?

200

6. pickup trucks?

880

If the percentages stayed the same for the next month but only 2,500 vehicles came to the station, how many of the vehicles would you expect to be

Find each percent of 2,500.

7. compact cars?

750

8. delivery trucks?

200

9. vans?

375

10. full-size cars?

500

11. motorcycles?

125

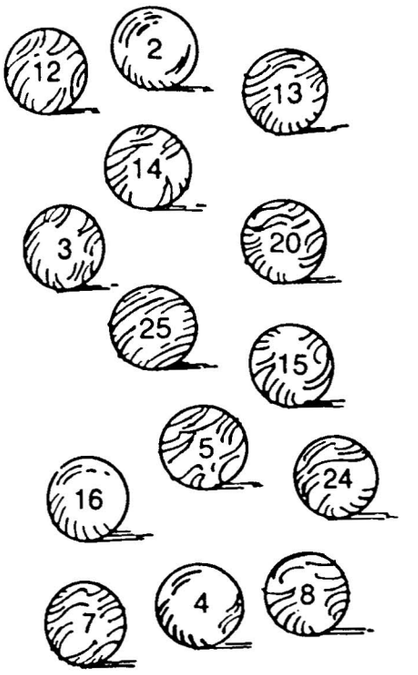
12. pickup trucks?

550

Pg. #92

Name SKILL #14

Use the pictures on the right to answer the questions.



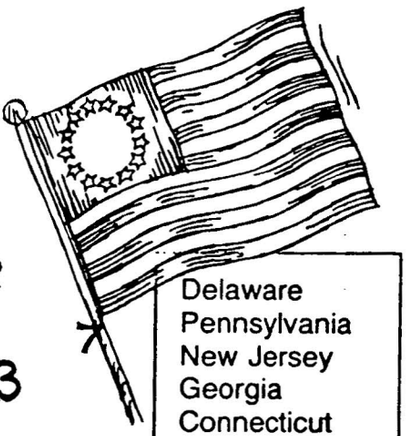
Each number is written on a marble. The marbles are placed in a hat. One marble will be drawn from the hat at random.

What is the probability of drawing a marble with a number that is

1. a 24? 1:14
2. a prime number? 5:14
3. an 8 or a 16? 1:7
4. an even number? 4:7
5. an odd number? 3:7
6. a number less than 6? 2:7

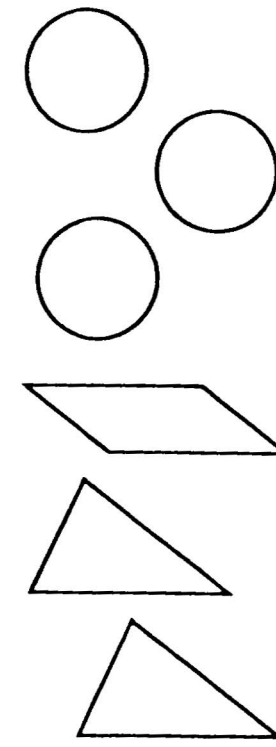
The marbles are replaced by 13 cards. Each card has the name of one of the original 13 states. Find the probability of drawing a card that shows a state that

7. begins with *W*. 0:13
8. begins with *NEW*. 3:13
9. ends in *g*. 0:13
10. contains *a* vowel. 13:13
11. begins with *M*. 2:13
12. ends in *e*. 2:13
13. has fewer than 6 letters in its name. 0:13
14. has more than 6 letters in its name. 13:13



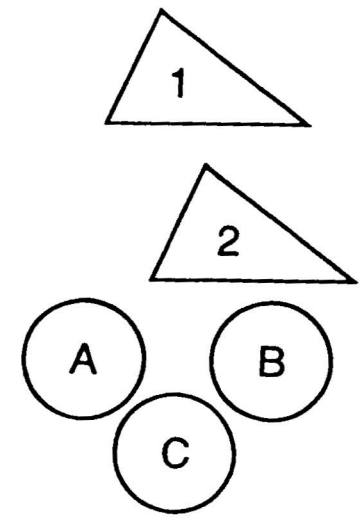
Delaware
Pennsylvania
New Jersey
Georgia
Connecticut
Massachusetts
Maryland
South Carolina
New Hampshire
Virginia
New York
North Carolina
Rhode Island

Diane placed six cards with these shapes in a box. She chose one card at random, replaced it, and drew another. What is the probability that



1. both shapes were circles? $\frac{1}{4}$
2. both shapes were triangles? $\frac{1}{9}$
3. both shapes were parallelograms? $\frac{1}{36}$
4. after three draws, all shapes were circles? $\frac{1}{6}$
5. after three draws, all shapes were triangles? $\frac{1}{27}$
6. the first draw was a circle, the second draw was a triangle, and the third draw was a parallelogram? $\frac{1}{36}$
7. the first draw was a circle, and the second draw was either a triangle or a parallelogram? $\frac{1}{4}$

Then Diane numbered the triangles and lettered the circles and placed them in separate boxes. What is the probability of drawing



8. an A and a 1? $\frac{1}{6}$
9. a B and a 1 or a 2? $\frac{1}{3}$
10. either an A or a C and a 1 or a 2? $\frac{2}{3}$

Maintenance

A box of 10 balls contains 2 red, 3 blue, and 5 green balls. If one ball is chosen at random, what is the probability of choosing

1. a red ball? $\frac{1}{5}$

2. a blue ball? $\frac{3}{10}$

3. a green ball? $\frac{1}{2}$

4. a red ball or a blue ball? $\frac{1}{2}$

There are 28 students in Ms. King's class. 15 of the students are girls. If Ms. King calls on a student at random to work a problem, what is the probability that she will choose

5. a boy? $\frac{13}{28}$

6. a girl? $\frac{15}{28}$

Use the table to give each answer.

If the same number of birds are to be seen at the same feeder this week, what is the probability that the next bird seen will be

7. a sparrow? $\frac{36}{53}$

8. a robin? $\frac{3}{53}$

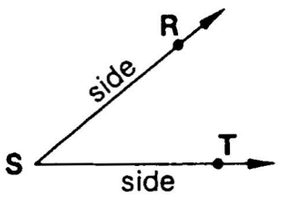
Birds seen at feeder during past week

Type of bird	Number of birds
Sparrow	72
Robin	6
Bluebird	28

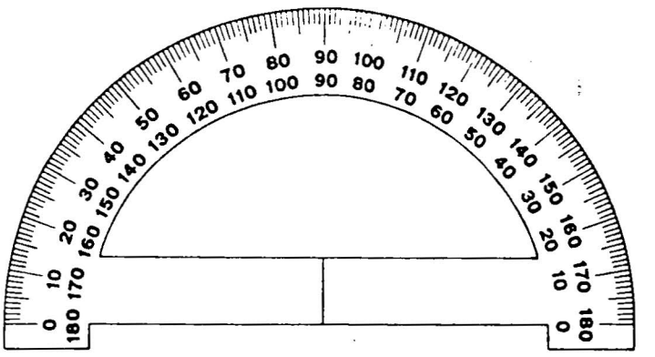
Pg. #95

Name SKILL #18

$\overrightarrow{SR}$ and $\overrightarrow{ST}$ form an angle.

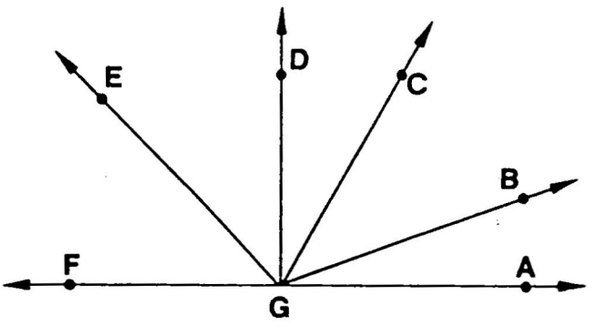


The angle can be named ∠RST, ∠TSR, or ∠S.



Use this protractor to measure the angles below.

Use the diagram on the right.



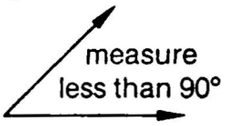
1. Give another name for ∠AGB.

∠BGA

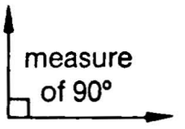
2. Name the sides of ∠DGB.

$\overrightarrow{GD}$ and $\overrightarrow{GB}$

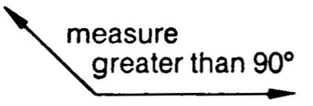
Angles can be described by their measures.



Acute angle



Right angle



Obtuse angle

Use a protractor to measure each angle. Tell whether the angle is *acute*, *right*, or *obtuse*.

3. m∠EGA = 134°

Obtuse

4. m∠DGF = 90°

Right

5. m∠CGB = 40°

Acute

6. m∠FGB = 160°

Obtuse

7. m∠CGA = 60°

Acute

8. m∠EGC = 75°

Acute

PG #96