EOC Review

Name _____ Date _____ Block _____

What have we learned so far?

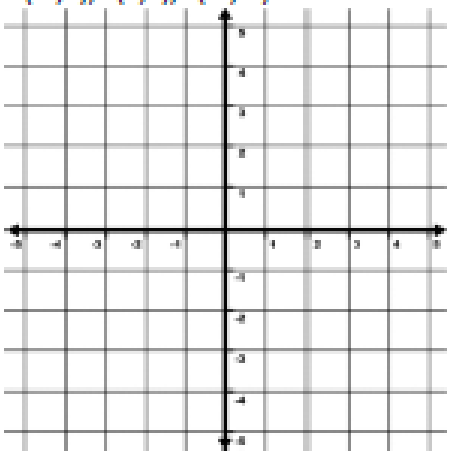
Transformations

1. Name the 4 types of transformations.

2. Which transformation only creates similar figures and why?

3. What transformation are rigid motions?

4. **Rotate the figure with the given vertices 90° Counter Clockwise about the origin, then reflect it over the y-axis.**
   X(-3,1), *Y*(3,2), *Z*(-1,-2)



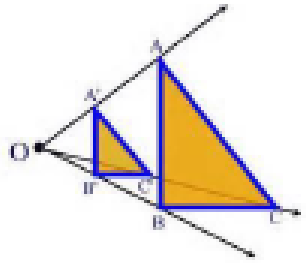
What is the coordinate notation for the transformations given?

Similarity

1. In terms of dilations, define the following terms in your own words.
   a. preimage –

   b. image -

   c. scale factor -
2. Identify the preimage, image, and provide a possible scale factor for the following figures.



   a. preimage - _____

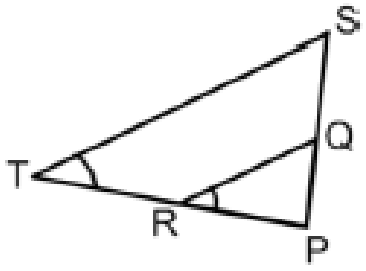
   b. image - _____

   c. Scale factor - _____
3. Given that figure DEFG and figure D'E'F'G' are similar and that $\overline{FG}$ is 2 , $\overline{DE}$ is 5 , and $\overline{F'G'}$ is 7 find the scale factor and the length of $\overline{D'E'}$.

EOC Review

Triangle Similarity

1. Decide if the following triangles are similar. State the postulate or theorem that you could use to show that.

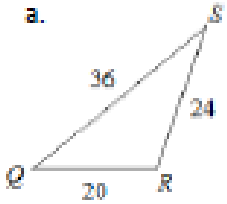


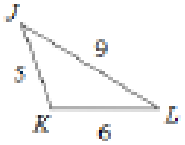
2. If $\overline{ST}$ is 24.75, $\overline{SP}$ is 16.5, and $\overline{SQ}$ is 9.9, what is the length of $\overline{QR}$?

3. What is the length of $\overline{RP}$ if $\overline{TP}$ is 18?

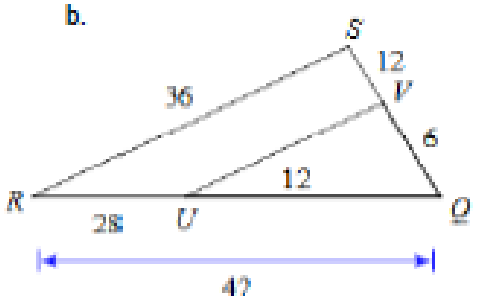
4. Provide evidence to show that the following triangles are similar or not. Write a similarity statement if they are.

a.





b.



c.

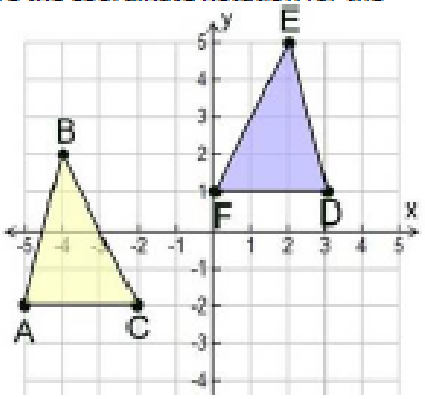
Congruence as a Rigid Motion

1. A figure has the coordinates A(-1, 3), B(2, -1), C (2, -4). Apply the given transformation, identify the transformation(s), and explain if the image produced is congruent to the preimage.

   a. $(x, y) \rightarrow (3x, 3y)$

   b. $(x, y) \rightarrow (-y, -x)$

2. For the following figures state if they are congruent and how you know. Then give the coordinate notation for the transformations used to map one onto the other.

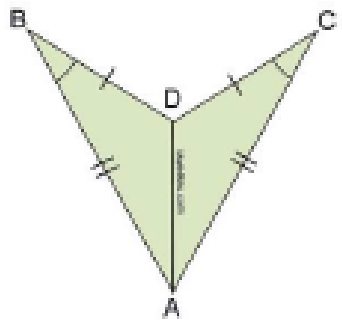


EOC Review

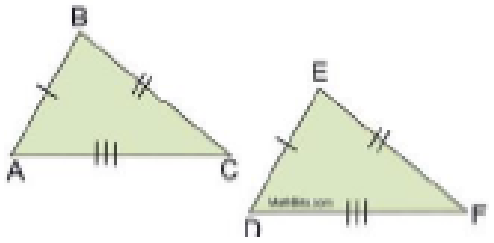
Proving Triangles Congruent

1. For the following triangles decide which triangle postulate, if any, can prove the triangles congruent. Then prove them to be congruent or state no conclusion.

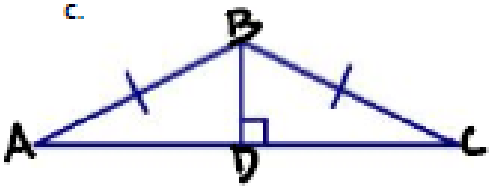
a.



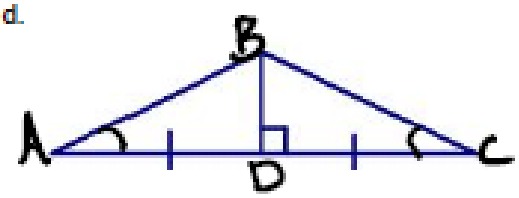
b.



c.



d.



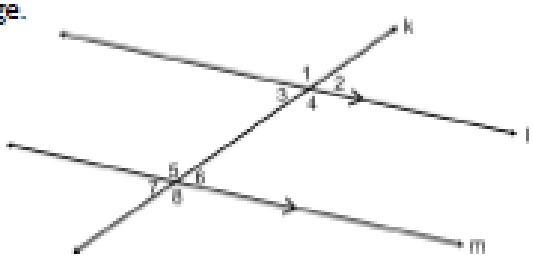
e. In the above problem, problem letter a. has two possible ways to show congruence, what is the second way?

Proving Parallel Line Properties

1. Prove the following parallel line properties to be true using the given image.

a. Given $\overleftrightarrow{l} \parallel \overleftrightarrow{m}$, prove that $\angle 3$ is supplementary to $\angle 5$.

Statement	Reason



b. Given $\overleftrightarrow{l} \parallel \overleftrightarrow{m}$, prove that $\angle 1 \cong \angle 8$.

Statement	Reason

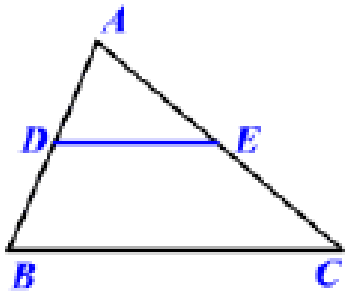
EOC Review

Triangle Theorems

Use the Triangle Proportionality Theorem to solve the following problems.

1. If $\overline{AD}$ is 4.5, $\overline{AE}$ is 3x, $\overline{DB}$ is 6, and $\overline{EC}$ is 7x-9,
   a. What is the value of x?

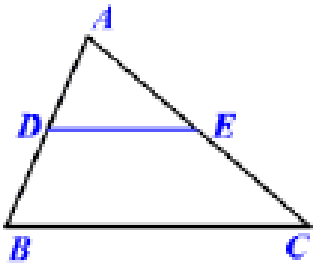
   b. What is the length of $\overline{BC}$ if $\overline{DE}$ is 6?



Use the Triangle Midsegment Theorem to solve the following problems.

1. $\overline{DE}$ is a midsegment of ΔABC.
   a. If $\overline{DE} = 2x + 6$ and $\overline{BC} = 14x - 3$, what is the value of x?

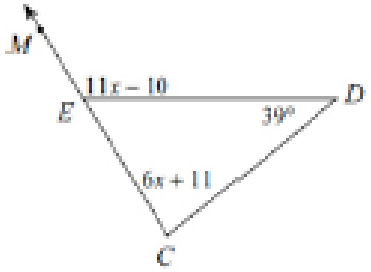
   b. What is the length of $\overline{DE}$?



Use the Exterior Angle Theorem to solve the following problems.

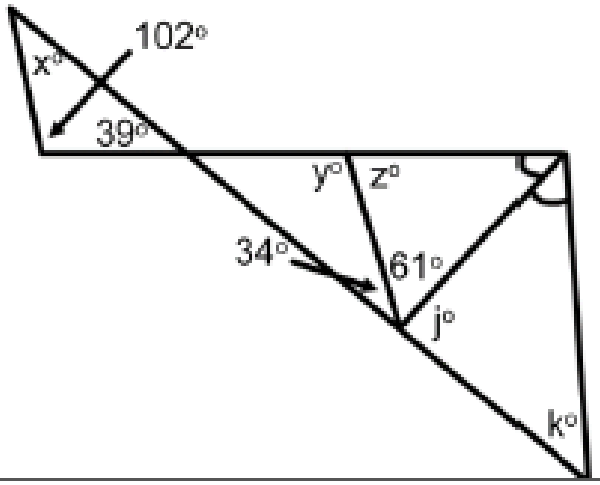
1. What is the value of x in the figure on the right?

2. What is the measure of $\angle CED$?



Use the Triangle Sum Theorem to solve the following problems.

1. Find the value of each of the missing angles.

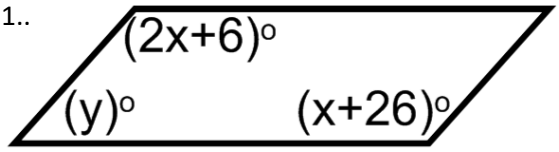


EOC Review

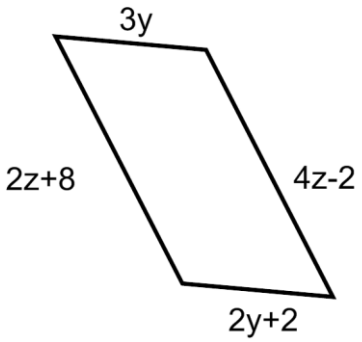
Parallelogram Properties

Find the value of x and y in the following parallelograms.

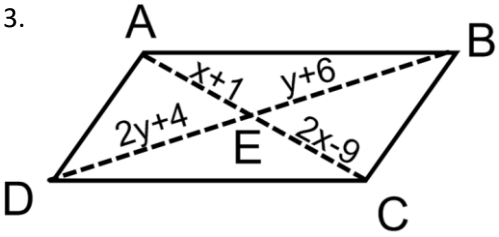
1..



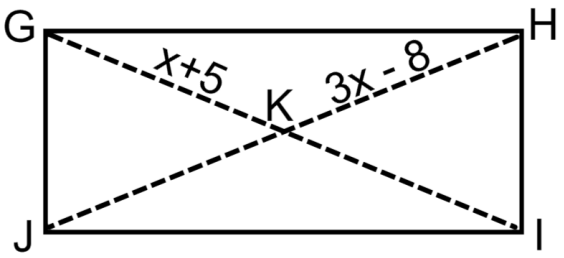
2.



3.

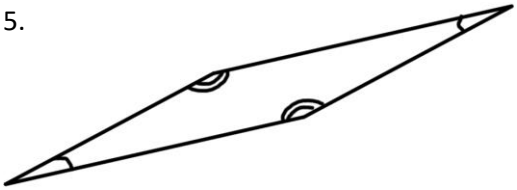


4. $\square GHIJ$ is a rectangle. Find the value of x.



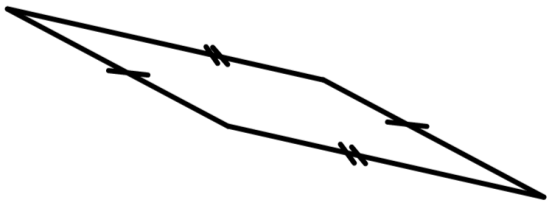
Could the following quadrilaterals be parallelograms? Provide an explanation of how you know.

5.

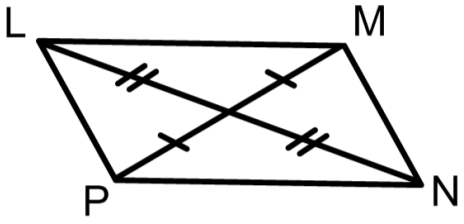


6.

7.



8.

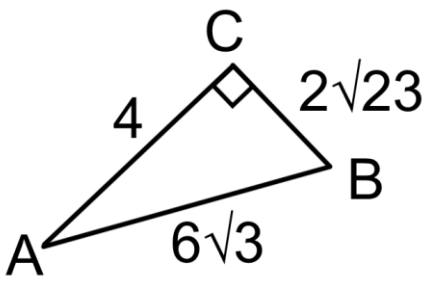


EOC Review

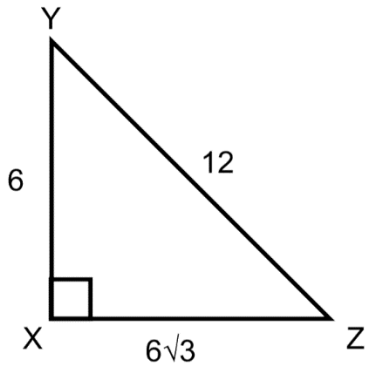
Right Triangle Trigonometry

Identify the basic trigonometric ratios for both acute angles of the following triangles. Answers in simplest radical form.

9.

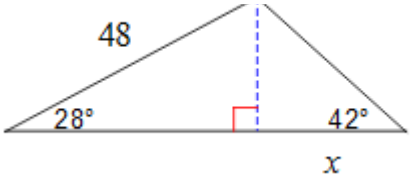


10.

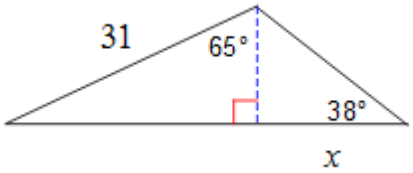


Solve for x.

11.



12.



13. A communications tower is built on top of a building with the following specifications. From a point 200 meters from the base of the building, the angle of elevation to the top of the building is 23.6° and the angle of elevation to the top of the tower is 15.9°. How tall is the tower?

14. In triangle ABC the sin(A) = 4/5. Find the following.

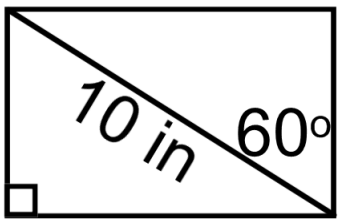
cos(B)

tan(A)

m∠A

Perimeter of ΔABC

15. Find the perimeter and area of the following rectangle.



EOC Review

Constructions

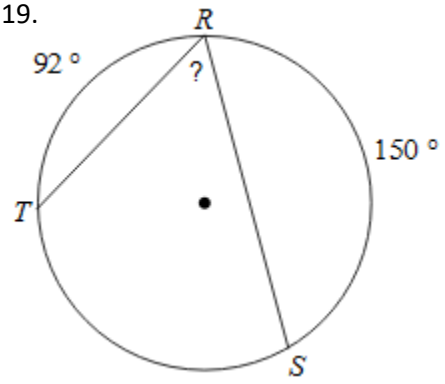
16. What are the steps for construction an inscribed square?

17. What construction is also completed when constructing parallel lines?

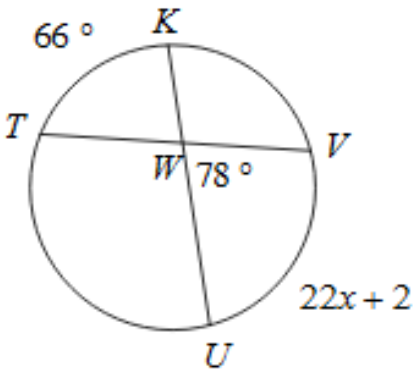
18. What are the steps for constructing a perpendicular bisector?

Circles Properties

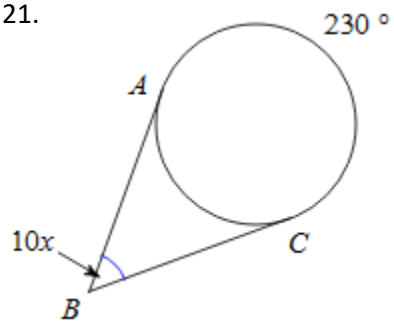
19.



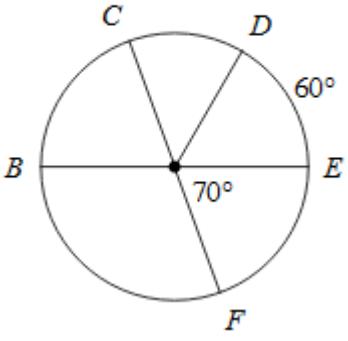
20.



21.



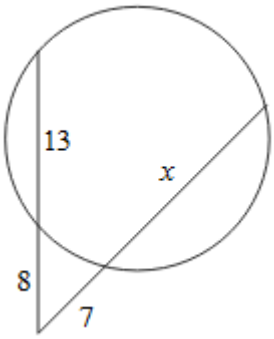
22. $m\overset{\frown}{FBD}$



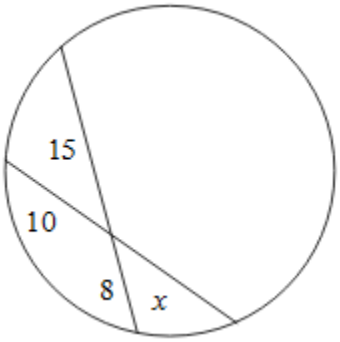
EOC Review

Circle Properties Continued

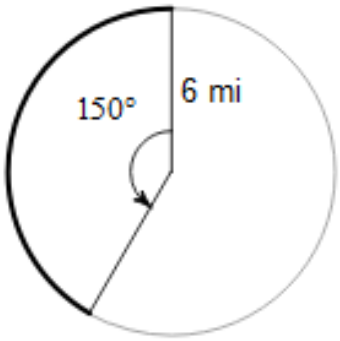
23.



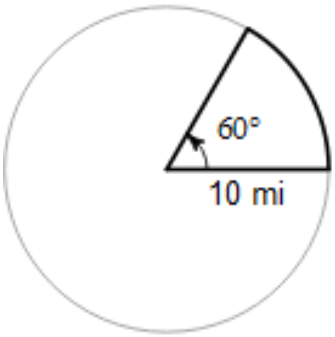
24.



25. Find the arc length.



26. Find the sector area.



Derivation of formulas

27. Where does the value of pi come from?

28. Describe what Cavalieri's Principle is, and why it works.

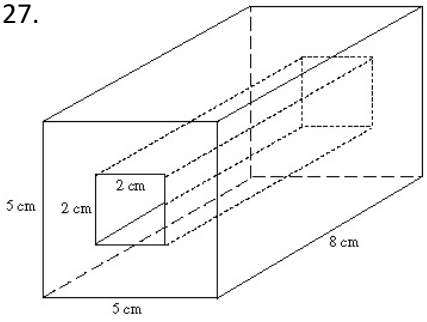
29. Describe how the equation for a cone could be derived.

30. Where does the equation for the area of a circle come from?

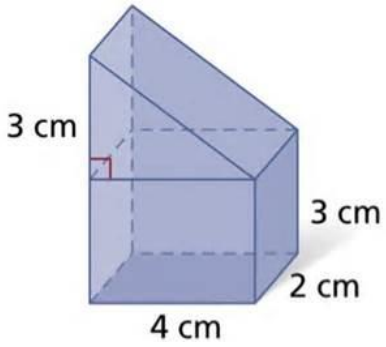
EOC Review

Volume

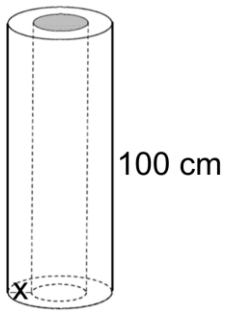
27.



`28.

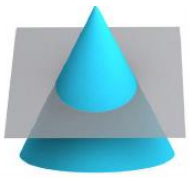


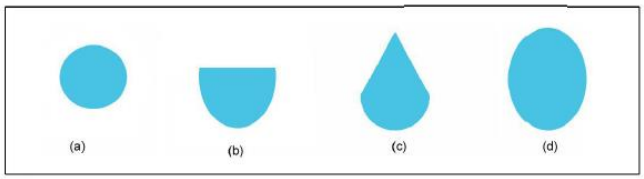
29. Find the thickness x of the hollow cylinder of height 100 cm if the volume between the inner and outer cylinders is equal to 11000 Pi mm^3 and the outer diameter is 12 mm.



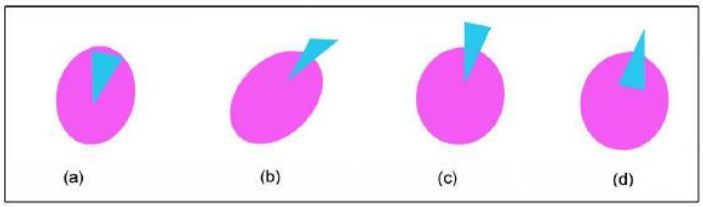
Cross Sections

30.





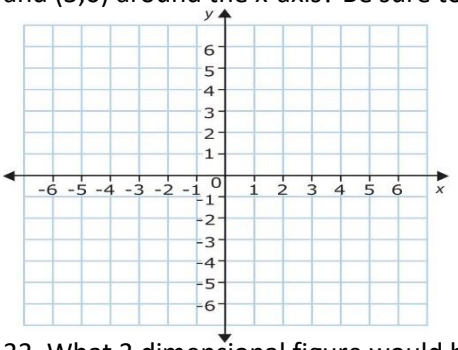
31.



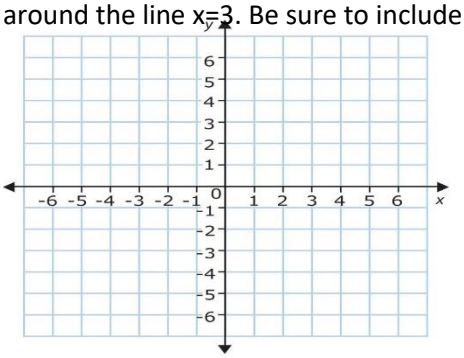
EOC Review

Cross Sections Continued

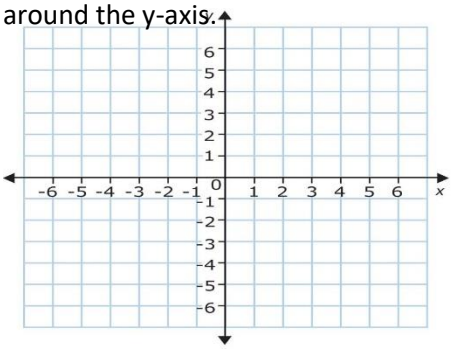
32. What 3 dimensional figure would be created from rotating the 2 dimensional figure with points (3,2), (5,2), (3,0), and (5,0) around the x-axis? Be sure to include radius and height.



33. What 3 dimensional figure would be created from rotating the 2 dimensional figure with points (0,2), (5,2), and (3,9), around the line x=3. Be sure to include radius and height.



34. What 3 dimensional figure would be created from rotating the 2 dimensional figure with points (0,4), (0,1), and (6,1), around the y-axis.



Parallel and Perpendicular Lines

35. Write the equation of a line that is parallel to $y = 2x + 9$ and goes through point (8, 20).

36. Write the equation of a line that is perpendicular to $5 + y = \frac{1}{4}x + 18$ and goes through point (-6, 12)

37. Write the equation of a line that is parallel to $9 + 2y = 4x + 11$ and goes through point (-4, 2)

EOC Review

Section Formula

38. Line segment AB has endpoints (-4, 1) and (3, -6). What are the coordinates of the point that divides AB in the ratio of 4:3?

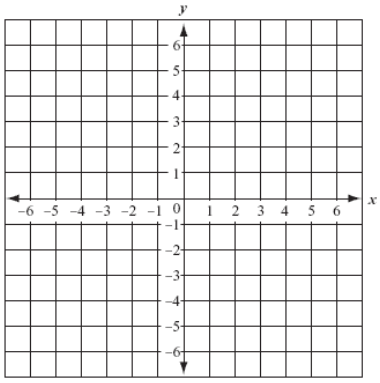
39. Line segment AB has endpoints (-3, 3) and (0, -6). What are the coordinates of the point that divides AB in the ratio of 1:2?

40. Line segment AB has endpoints (6, 1) and (-6,1). What are the coordinates of the point that divides AB in the ratio of 3:1?

Graphing Circles

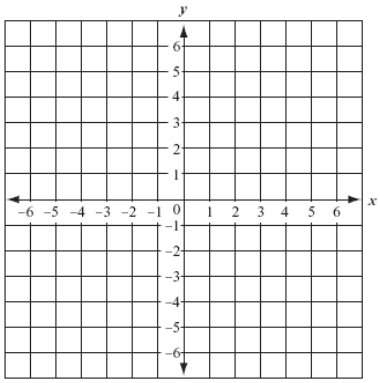
41. $(x+3)^2 + (y-2)^2 = 4$

r= center=



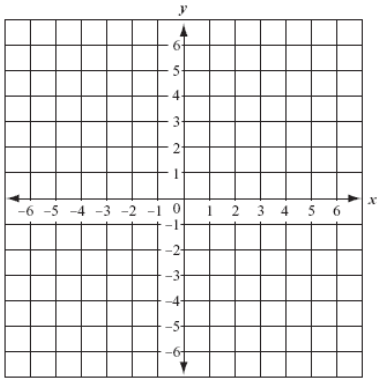
42. $(x-2)^2 + (y-3)^2 = 16$

r= center=



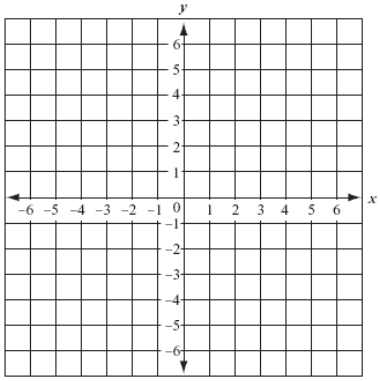
43. $(x+4)^2 + (y-6)^2 = 1$

r= center=



44. $(x+3)^2 + (y-3)^2 = 16$

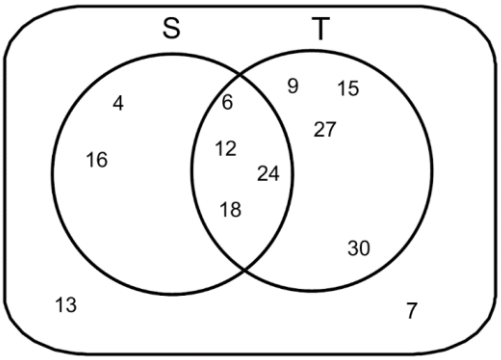
r= center=



EOC Review

Statistics

45. Find the following.



a) $S \cap T$

b) $T \cup S$

c) $S^C \cap S$

d) $T^C \cup S$

e) $(S \cap T)^C$

46. Ms. DenBesten has a container of candy. In the container she has 21 Hershey's kisses, 11 Snickers, 38 Jolly Ranchers, and 26 Dum Dum's. Find the following:
    a) What is the probability of selecting a Dum Dum and then selecting a Jolly Rancher with replacement?

    b) What is the probability of selecting a non-chocolate and then selecting a Jolly Rancher with replacement?

    c) What is the probability of selecting a Hershey's kiss and then selecting a chocolate w/o replacement?

    d) What is the probability of selecting a Dum Dum and then selecting a Jolly Rancher?

47. A new superman MasterCard has been issued to 2000 customers. Of these customers, 1500 hold a Visa card, 500 hold an American Express card and 40 hold a Visa card and an American Express card. Find the probability that a customer chosen at random holds a Visa card, given that the customer holds an American Express card.

48. The probability that Trent buys Jordan's and gets a mark on them within the first week is 1 / 7. The Probability that he buys Jordan's is 1/5. Find the probability that Trent gets a mark on his shoes within the first week, given that he bought Jordan's.

49. At a school of only 300 students there are 132 KIK users; of the KIK users 74 are female and of the non-KIK users 96 are male.
    a) P(a KIK user or a female)
    b) P(a non-KIK user or female)
    c) P(a KIK user or Male

EOC Review

Statistics Continued

50. Below is a partial list of the results of a classroom Poll. Complete the chart.

Study for the Test

	yes	no	Maybe	Total
Boys	2	2		10
Girls			7	
Total		7		30

a) Who was more likely to study for the test girls or boys? Why?

b) Is it more likely for someone to study for the test or not study(consider maybe a yes)?

c) What percent of students studied for the test, given that they were girls?

d) What percent of students where boys, given that that they said maybe?

e) Fill in the relative frequency table.

f) If we were talking about all of geometry, which has 300 students. How many would study for the test?

g) How many girls wouldn't have studied?

Decided if each of the following are independent(Mutually Exclusive) or Dependent(Not M.E.) events.

a. Landing on heads after tossing a coin and rolling a 5 on a single 6-sided die.

b. Choosing a 3 from a deck of cards, replacing it, and then choosing an ace as the second card.

c. Spinning a spinner twice.

d. Pick a marble from 5 marbles, don't put it back then pick another marble.

e. Having a car and having a laptop.

f. Choosing a king and choosing an Ace out of a deck of cards.

g. Flipping a coin and getting heads and tails

EOC Review