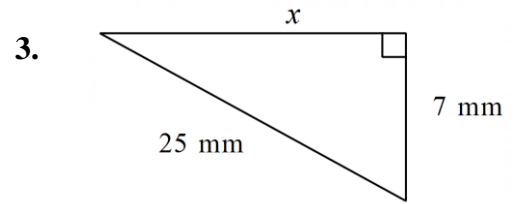
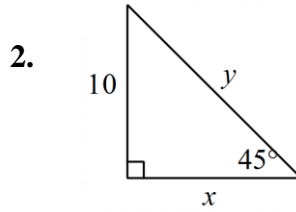
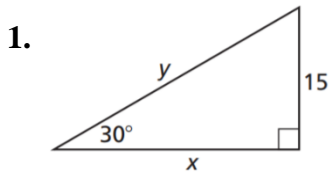


8.1 Worksheet: Show your work!

Review: For #1 – 3, find the value of each variable. Write your answer in simplified radical form, if necessary.

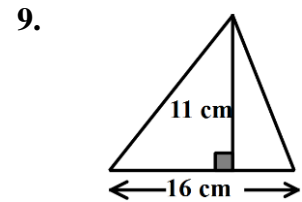
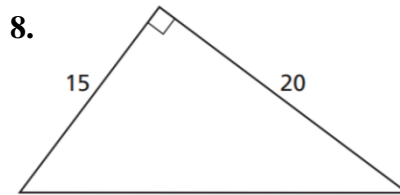
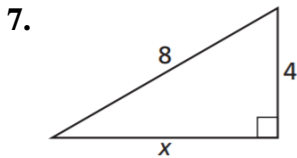


For #4 – 9, find the area of each triangle. If needed, round your answer to one decimal place.

4. The triangle from #1

5. The triangle from #2

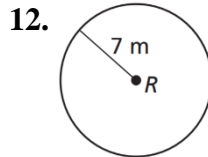
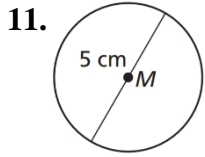
6. The triangle from #3



10. A triangle has an area of 60 in^2 . If the height of the triangle is 12 inches, then what is the length of the base of the triangle?

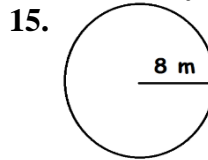
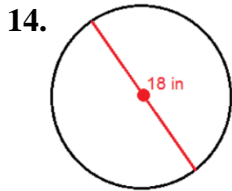
8.1 Worksheet, continued...

For #11 – 13, find the area of each circle. Write your answer in terms of π .



13. circle with a radius of 6.75 inches

For #14 – 16, find the area of each circle. Round your answer to one decimal.

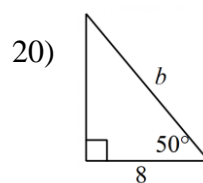
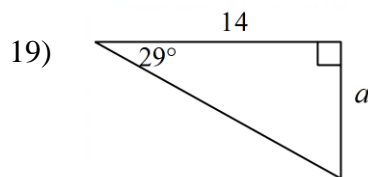


16. circle with a diameter of 27 cm

17. A circle has area of $64\pi \text{ cm}^2$. Find the length of the radius.

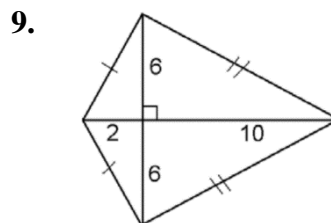
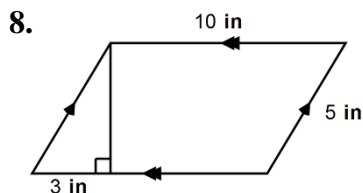
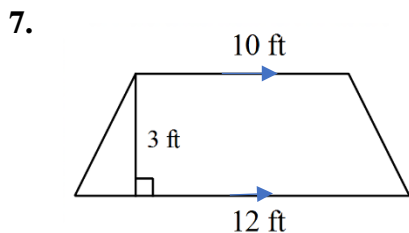
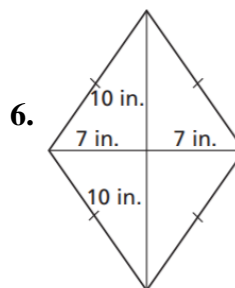
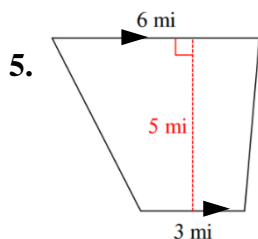
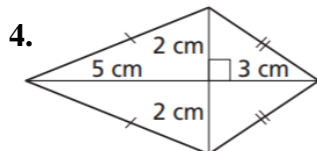
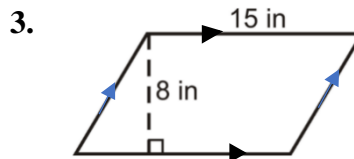
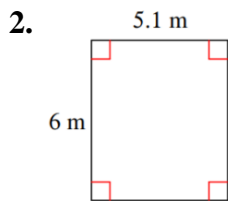
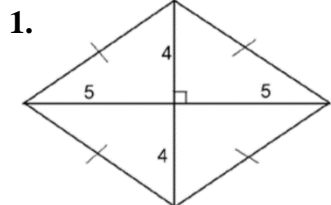
18. A circle has area of $45\pi \text{ cm}^2$. Find the length of the diameter. Write your answer as a simplified radical.

#19 – 20: Solve for each variable. Round your answer to one decimal place. Hint: use SohCahToa.



8.2 Worksheet: Show your work!

For #1 – 9, find the area of each quadrilateral.



10. The area of a square is 75 square ft. Find the length of one side, rounded to one decimal place.

8.2 Worksheet, continued...

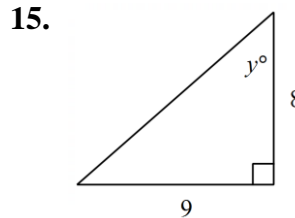
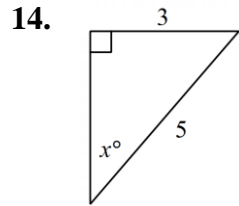
11. A rhombus has an area of 40 ft^2 . If the measure of one diagonal is 16, then what is the measure of the other diagonal?

For #12 – 13, each dilation is centered at the origin. Find the image A' with the given coordinates of A and the given scale factor.

12. $A(-3, 6); k = 4$

13. $A(15, -6); k = \frac{1}{3}$

For #14 – 15, find the variable in each diagram. Hint: use SohCahToa.



16. Multiple choice. Given that $\triangle JLK \sim \triangle RST$, which statement(s) below are true? Select all that apply.

A) $\frac{JL}{RS} = \frac{LK}{RT}$

B) $\frac{JL}{RS} = \frac{JK}{RT}$

C) $\angle K \cong \angle T$

D) $\angle L \cong \angle R$

17. The base of a triangle is 10 units. The height is $2\sqrt{3}$ units. Find the area of the triangle in radical form.

18. The area of a circle is 36π . Find the radius *and* the diameter of the circle.

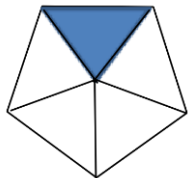
8.3 Worksheet: Show your work!

For #1 – 3, what is the name of a polygon with the number of specified sides?

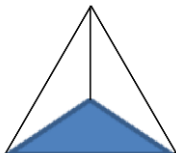
1. 6 sides 2. 8 sides 3. 5 sides

For #4 – 6, find the area of each regular polygon given the area of the shaded region.

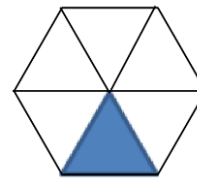
4. 20 in^2



5. 14 mm^2

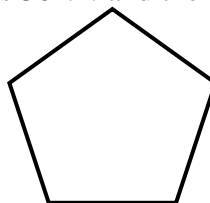
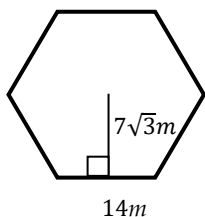


6. 22 cm^2

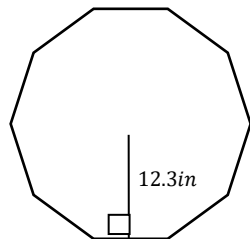


For #7 – 11, find the area of each regular polygon.

7. 8. The perimeter is 30 mm and the apothem is 4.12 mm .



9. The perimeter is 80 inches . 10. A regular decagon with apothem 10 inches and side length of 3 inches .



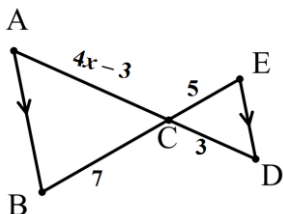
11. A regular hexagon with apothem of 5 cm and a side length of 6 cm .

8.3 Homework, continued...

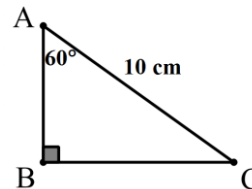
12. Find the area of a circle with radius 25 in. Write your answer in terms of π .

13. A rhombus has diagonals with length 16 mm and 10 mm. Find the area of the rhombus.

14. In the figure, $\triangle ABC \sim \triangle DEC$. Find the value of x .

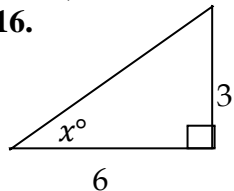


15. Find the length of BC. Leave your answer in radical form.

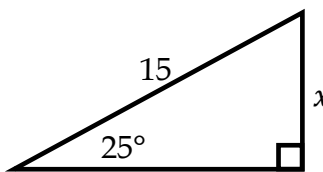


For #16 – 17, solve for x . Round to the nearest tenth. Hint: Use Soh-Cah-Toa.

16.



17.



18. A square has a perimeter of 48 inches. Find the area of the square.

Geometry

Ch 8 Project (Worth 50 Test Points)

Directions: Create a drawing of a stained-glass design that uses the figures we have studied in Chapter 8.

Grading and Requirements:

1) Appearance (40% of the overall grade)

- Your design must be hand-drawn and cannot be completed on a computer. Designs created on a computer will not be graded.
- Your design must be colored fully and visually appealing.
- Your design must fully cover a standard 8.5 x 11 sheet of paper, at a minimum. It may be larger than this.
- Your design must be neat and orderly.
 - Use a straight edge, such as a ruler, to make segments straight.
 - For circles, outline a circle by using the bottom of a cup, or use a compass.
- Grading for Appearance**
 - Design covers a full-sized piece of paper. **10% of the overall grade**
 - Design is drawn neatly and with care. Obvious effort went into the creation of the design. **10% of the overall grade**
 - Design is fully colored and appealing visually. **20% of the overall grade**

2) Shapes (30% of the overall grade)

- Your design must include *at least* one of each of the following figures. It can include more than one of each type, if desired.
 1. Triangle
 2. Square
 3. Rectangle
 4. Any of the following quadrilateral of your choosing (rhombus, parallelogram, kite, trapezoid)
 5. Circle
 6. Regular polygon with at least 5 sides (pentagon, hexagon, heptagon, octagon, etc...)
- Grading for Shapes: Each shape listed above is worth 5% of the overall grade.**

3) Area Write-Up (30%)

- On a separate sheet of paper, find the area of one of each of the six shapes listed above. For example if you have 3 triangles in your design, find the area of one of the triangles. You will need to find the area of 1 of each shape (triangle, square, rectangle, other quadrilateral, circle, regular polygon).
- Use a ruler to measure the dimensions of each shape. Show the formula you are using for each shape, and the values you use in the formula. Show all of your work, and circle your final answers.
- Centimeters are the suggested unit for your measurements.
- Grading:** The area of each figure is worth 5%. You must show your work and have correct calculations to earn full points for this portion.

Scoring Rubric		
Appearance (20 points)	5 points	Drawing covers a full-sized piece of paper (8.5 x 11, at a minimum)
	5 points	Hand-drawn, done neatly, used straight edge as needed
	10 points	Fully colored, visually appealing
Shapes (15 points)	15 points	2.5 points each shape (the six shapes listed above must all be included)
Areas (15 points)	3 points	Formula shown for each of the six shapes (0.5 points each)
	6 points	Works shown for calculating area for each of the six shapes (1 point each)
	6 points	Accuracy of answer for each area calculation of the six shapes (1 point each)

See examples on the next page...

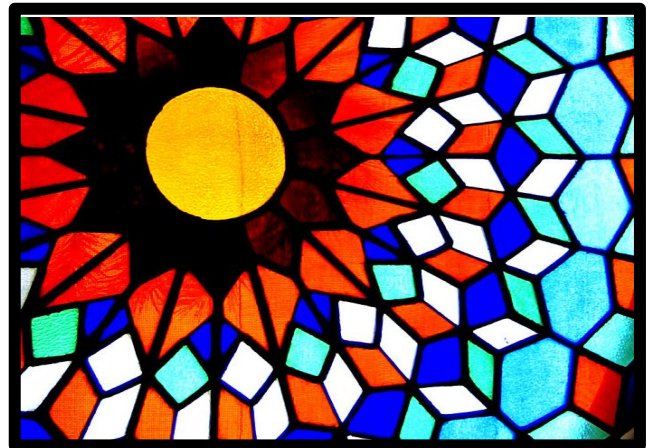
Examples of Stained Glass Window Designs

These designs all have geometric shapes similar to the requirements for this project, and can be used to help you come up with your own designs. Do not copy any of these designs directly, as that would be considered cheating. Also, none of these designs have all six of the figures you need for your project. These examples are intended to help you get some ideas, but they should not be considered as fully complete for this project.

Example 1: Note: does not have a regular polygon.



Example 2: Note: does not have a square; edges are not always straight; pentagons are not regular (sides and angles are not congruent).



Example 3: Note: doesn't have a circle, a rectangle, or a triangle (although it would be easy to add that those into this type of design).

