



Preparing for calculus leaves little time for remediation. Therefore, it is necessary for precalculus students to have certain prerequisite knowledge. The precalculus teachers at Lamar strongly recommend that students review algebra and geometry before entering precalculus.

One source for review can be found at www.classzone.com. This website is associated with the adopted algebra and geometry textbooks. Students can go online to review lessons or to access a home tutor. Students should review chapters 1 through 4 of the Algebra 2 book and chapters 6 and 7 of the geometry book.

Here is a list of prerequisite skills that are needed for precalculus. Students should:

- Be able to solve a multi-step equation
- Know how to graph points, lines, and other types of functions
- Be familiar with transformations for linear, absolute value and quadratic functions
- Factor using difference of squares, trinomial square or simple trial and error
- Simplify square roots
- Solve a system of equations by at least one method
- Read and solve word problems using a linear or quadratic model
- Multiply binomials
- Solve right triangles using the Pythagorean Theorem or simple trig functions
- Know lengths of sides of special right triangles formed by Pythagorean triples or with angles of 45-45-90 or 30-60-90 (geometry)
- Know rules for finding angles when lines are parallel
- Know rules of exponents and logarithms

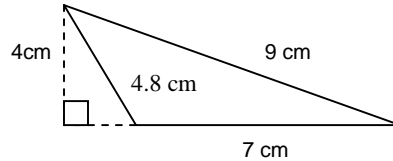
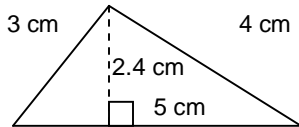
Attached find a set of problems specifically designed to aid in the review of geometry. We will cover trigonometry first so the geometry topics are most important at the beginning of the term. These problems must be completed by the first day of class. A test over this material will be given during the first two weeks of the fall term or the first two days of summer school.

Name: _____ Date: _____ Pd: _____

Geometry Review for Precalculus

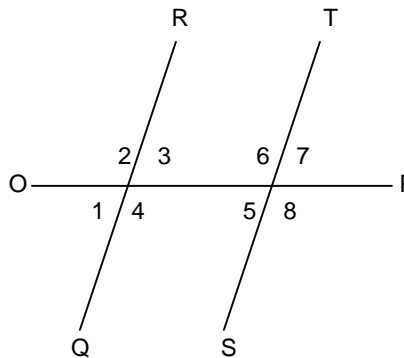
Drawings are not to scale. Show all work where applicable.

1) Find the area of the following triangles:

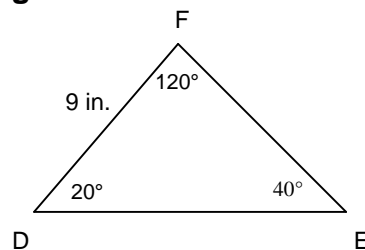
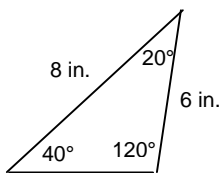


2) If $\overline{QR} \parallel \overline{ST}$ and $\angle 3 = 70^\circ$, give the measure of each of the following angles:

- $\angle 1 =$
- $\angle 4 =$
- $\angle 5 =$
- $\angle 6 =$
- $\angle 8 =$



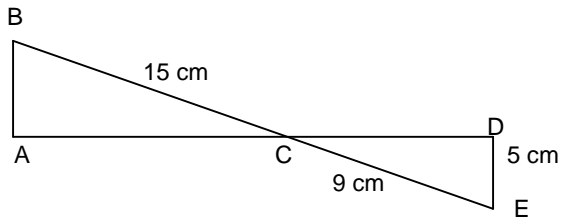
3) Find the listed missing sides.



$EF =$ _____

$DE =$ _____

4) Find all the missing sides if the angles at A and D are right angles.

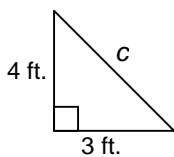


5) A post casts a shadow of 15 ft at the same time an 8-foot vertical rod casts a shadow of 24 ft. How tall is the post?

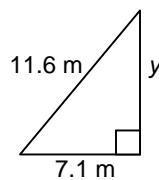
6) Given an isosceles right triangle with one leg having a value of 6.5 cm, find the hypotenuse.

7) A man left a building and walked a distance of 42.5 feet from the building. The building is 38 feet high. How far is the man from the top of the building?

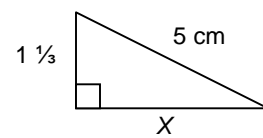
8) Find the missing sides.



$c = \underline{\hspace{2cm}}$



$y = \underline{\hspace{2cm}}$



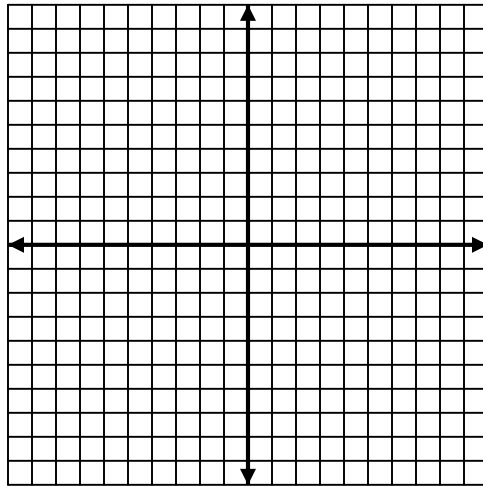
$X = \underline{\hspace{2cm}}$

9) Find the measure of each angle.

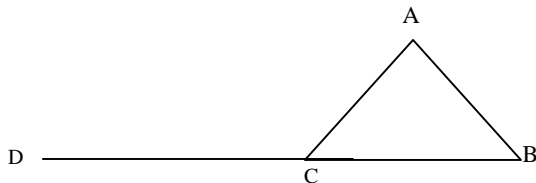
a. Supplementary angles with measures $10m+7$ and $7m+3$

b. Complementary angles with measures $9z+6$ and $3z$

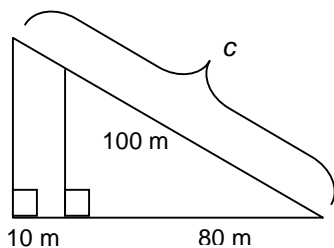
10) Determine whether the triangle whose vertices lie at $(-1,2)$, $(2,2)$ and $(2,6)$ is a right triangle.



11) Find the value of $\angle ACB$ and $\angle ABC$, if $m\angle ACD = 140^\circ$ and $\overline{BC} \cong \overline{AC}$.

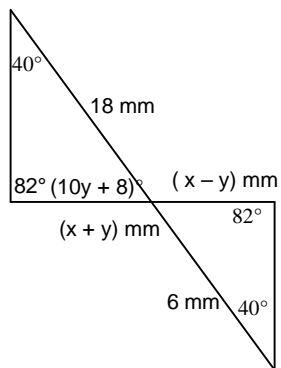


12) Find c .



- 13) Two quadrilaterals are similar. The lengths of the three shortest sides of the first quadrilateral are 18cm, 24cm, and 32cm. The lengths of the two longest sides of the second quadrilateral are 48 cm and 60cm. Find the missing lengths of the sides of these two figures.

- 14) Find x and y .



- 15) If the perimeter of an equilateral triangle is 24 feet, find the altitude.

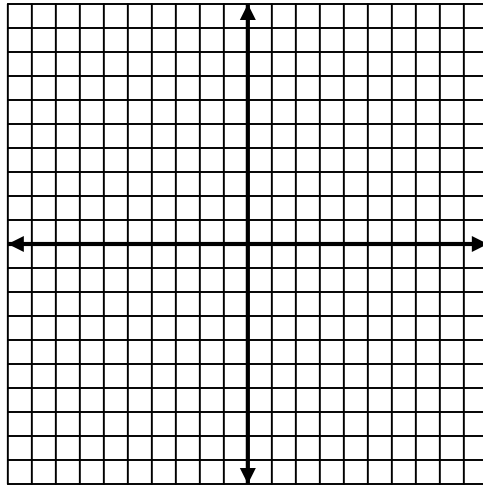
- 16) Find the length of a side of a square whose diagonal is 6 inches.

- 17) Find the distance between the following pairs of points:

a. $(-3,6)$ and $(-3,2)$

b. $(\sqrt{2}, -\sqrt{5})$ and $(3\sqrt{2}, 4\sqrt{5})$

18) Determine if these three points lie on a straight line: $(1,3)$, $(5,-12)$, $(-1,11)$



19) Write an equation for all points that are 5 units from $(0, 0)$.

20) The height (h) of the Great Pyramid of Egypt is 144m. The slant height (a) measures 184.7 m. Assuming the base is a square, find the length (l) of a side of the base.