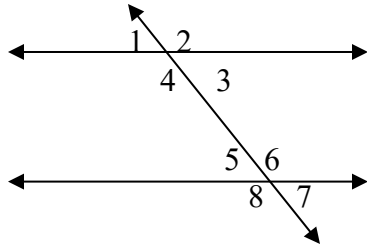


Test 4 Review

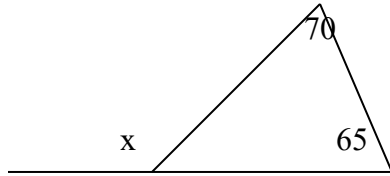
- I. Know Terminology: perpendicular, complementary, supplementary, ray, etc.
 II. Know angle relationships



$$\begin{aligned} \angle 1 &= \angle 3; \angle 2 = \angle 4 \\ \angle 1 + \angle 2 &= 180; \angle 6 + \angle 7 = 180 \\ \angle 3 &= \angle 5; \angle 4 = \angle 6 \\ \angle 1 &= \angle 5; \angle 3 = \angle 7 \end{aligned}$$

- III. Polygons
 a) Sum of the interior angles: $S = (n - 2)180$
 b) Measure of an exterior angle: $360 \div n$

- IV. Triangles
 a) Sum of the angles = 180
 b) Angles opposite equal sides are =
 c) An exterior angle of a triangle equals the sum of the 2 interior angles that are “opposite” the exterior angle.



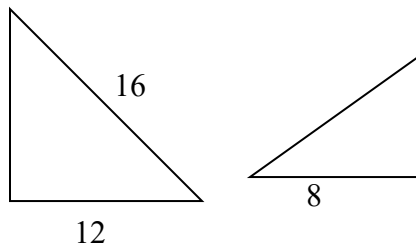
$$\begin{aligned} x &= 70 + 65 \\ x &= 135 \end{aligned}$$

- d) The sum of any two sides of a triangle must be greater than the third side.
 Ex) A triangle could not have sides with length 1, 4 and 5 because $1 + 4 = 5$ (has to be greater)

- V. Know properties about quadrilaterals: parallelograms, rectangles, squares, rhombus, and trapezoids.

- VI. Know “methods” to prove triangles congruent:
 SSS, SAS, AAS, ASA, HL

- VII. Sides of similar figures form proportions. (Be sure to match up sides)



$$\frac{16}{12} = \frac{x}{8}$$

VIII. Know perimeter and area formulas.

Perimeter: add up the sides.

Circle – Circumference: $C = \pi d$

Area:

$A = bh$ (parallelogram)

$A = \frac{1}{2} bh$ (triangle)

$A = \frac{1}{2} h(b_1 + b_2)$ (trapezoid)

$A = \pi r^2$ (circle)

IX. Know what happens if I were to change the side of a figure what would happen to the area. For example, if I double the radius of a circle what happens to the area?

X. Proportions in right triangles

a) $\frac{\text{left segment}}{\text{altitude}} = \frac{\text{altitude}}{\text{right segment}}$

b) $\frac{\text{hypotenuse}}{\text{leg}} = \frac{\text{leg}}{\text{adjacent segment}}$

XI. Pythagorean Theorem: $c^2 = a^2 + b^2$

XII. Special Right Triangles: 45-45-90 and 30-60-90

XIII. Trig: Sine, Cosine, and Tangent

XIV. Distance and Midpoint

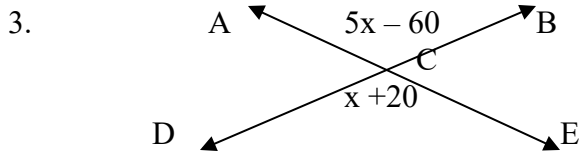
$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

$M = \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}$

XV. Coordinate Geometry Proofs

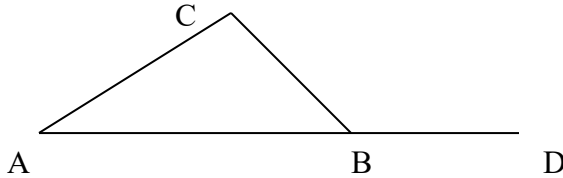
TEST 4 REVIEW PROBLEMS

1. Find the sum of the interior angles of a pentagon.
2. If the circumference of a circle is 12π , find the area of the circle.

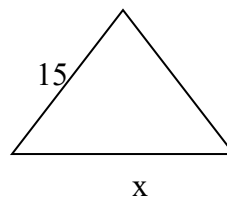
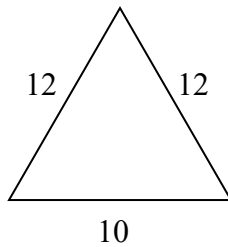


Find the measure of angle ACD.

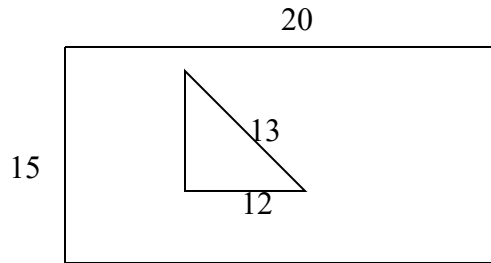
3. The measure of angle CBD is 165° . The measure of angle BAC is 80° . Find the measure of angle ACB.



4. Find the distance and midpoint of the following points $(-2, 3)$ and $(4, -1)$
5. Triangle ABC \sim Triangle DEF. Find x.

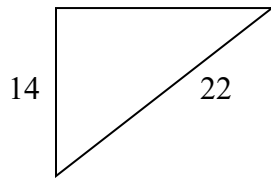


6. Find the area of the shaded figure.



7. If the diameter of a circle is doubled, then the circumference would
A. Multiply by 4 B. is halved C. Doubled D. Increases by 2
8. Give an example of a Pythagorean Triple. Show why it's a Pythagorean Triple.
9. If two sides of a triangle measure 4 and 7, the length of the third side could be
A. 11 B. 2 C. 3 D. 10

10. Find the missing side.



11. Find x

