Topics: Review

Two lines with a transverse

α α

Opposite angles, formed from crossing straight lines, are equal.

 $\angle \alpha = \angle \alpha$ – opposite $\angle \alpha + \angle \beta = 180^{0}$ – on a straight line, Or complementary angles

$$l_{1} \qquad 2$$

$$l_{2} \qquad 6 \qquad 1$$

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$$l_{1} \parallel l_{2} \text{ t is transversal:}$$

$$t \qquad \qquad \angle 1 = \angle 2 = \angle 3$$

 $\angle 1 = \angle 3$ = alternate interior angles $\angle 1 = \angle 2$ = corresponding angles $\angle 4 = \angle 2$ = alternate exterior angles $\angle 5 = \angle 2$ = same side (consecutive) exterior angles $\angle 6 = \angle 3$ = same side (consecutive) exterior angles

Parallelogram: A parallelogram is a quadrilateral in which opposite sides are parallel. The sum of angles of an n-gon: is $(n - 2) \times 1800$.

Triangle Congruency



Rule 1 (Axiom 1) SSS rule

The triangles $\triangle ABC \cong \triangle A'B'C'$ are congruent when their sides are equal: AB = A'B', BC = B'C', AC = A'C'

Rule 2 (Axiom 1) SAS rule

The triangles $\triangle ABC \cong \triangle A'B'C'$ are congruent when two sides and the angle between them are equal AB = A'B', AC = A'C' and $\angle CAB = \angle C'A'B'$

Rule 3 (Axiom 1) ASA rule

The triangles $\triangle ABC \cong \triangle A'B'C'$ are congruent when two angles and the side between them are equal $\angle CAB = \angle C'A'B', AB = A'B'$, and $\angle ABC = \angle A'B'C'$

MATH 5e: Class Work 28

Review Problems:

1. Two parallel lines, line *a*, and line *b*, are transversed by two other lines at points A, B, and C, as shown in the picture. The angle $\angle ABC = 50^{\circ}$, and the angles $\angle BAC$ and $\angle ACB$ are equal ($\angle BAC = \angle ACB$). Point D is online *b*. Find the size of the angle $\angle ACD$.



- 2. In an isosceles triangle, the base is 8 cm long and the sides are 5cm. Find the area of the triangle.
- 3. The triangle $\triangle ABC$ is an isosceles triangle where angle $\angle A = 50^{\circ}$. Line $PQ \parallel AC$.
 - a) Find the measure of angles P and Q
 - b) prove that $\triangle PQC$ is an isosceles



- 4. Simplify and evaluate the following expressions
 - a) 20 (-9) 15 =
 - b) $-3 \times (-5) + (-12) =$
 - c) -6(a+1) 3(2a-1) =
 - d) $\frac{5}{12} + \frac{2}{15} =$
 - e) $\left(-1\frac{1}{7}-2\frac{1}{3}\right) \div \frac{2}{21} =$

- 5. Calculate:
 - a. $\sqrt{64} =$ b. $\sqrt{2^6 \times 3^4} =$ c. $\frac{81-3^3}{9^2} =$
- 6. Solve the following equations:
 - a) 7 5x = -4 2xb) |3x - 4| = 11
- 7. You roll a six-sided die. What is the probability to get 2? What is the probability to get 2 or 5? What is the probability of getting two 3s if you roll the die twice?

8. Create a problem to calculate probabilities when rolling a 10-sided die.

9. Two cars start driving from cities A and B at 9.30 in the morning, driving in opposite directions toward each other. One of the cars travels at 64 km/h, and the other travels at 70 km/h. What is the distance between the two cities if the cars meet at 11 a.m.?