Name:

Date:

School:

Facilitator:

7.03 Parallelograms

Total Points: 49

**Part 1: Find the missing measures in the parallelograms below. If there is not enough information to find a missing measure, enter “not enough information” AND explain what information you would need to solve.**

|  |  |  |
| --- | --- | --- |
| Parallelogram ABCD  • The measure of angle A is 67 degrees.  |  | Parallelogram ABCD  • The measure of angle A is 125 degrees. |
| 1. ∠B =      o∠C =      o∠D =      o
 |  | 1. ∠B =      o∠C =      o∠D =      o
 |
|  |  |  |
| Parallelogram ABCD  • The measure of angle A is 90 degrees. |  | Parallelogram ABCD  • The measure of angle A is 40 degrees. |
| 1. ∠B =      o∠C =      o∠D =      o
 |  | 1. ∠B =      o∠C =      o∠D =      o
 |
|  |  |  |
| Parallelogram ABCD  • The measure of angle A is 135 degrees.  |  | Parallelogram ABCD  • The measure of angle A is x. |
| 1. ∠B =      o∠C =      o∠D =      o
 |  | 1. ∠B =      o∠C =      o∠D =      o
 |
|  |  |  |
| Parallelogram ABCD  • AB equals 3. |  | Parallelogram ABCD  • AB equals 8. |
| 1. BC =     CD =     AD =
 |  | 1. BC =     CD =     AD =
 |
|  |  |  |
| Parallelogram ABCD  • AD equals 4. |  | Parallelogram ABCD  • AB equals 5. • AD equals 3. |
| 1. AB =      BC =     CD =
 |  | 1. BC =     CD =
 |
|  |  |  |
| Parallelogram ABCD  • Segments AC and BD are diagonals of the parallelogram. • The diagonals intersect at point L. • Segments AL and LC are marked congruent. • Segments DL and LB are marked congruent. • AL equals 3. |  | Parallelogram ABCD  • Segments AC and BD are diagonals of the parallelogram. • The diagonals intersect at point L. • Segments AL and LC are marked congruent. • Segments DL and LB are marked congruent.  • LB equals 2.7. |
| 1. LB =      LC =      LD =
 |  | 1. LA =      LC =      LD =
 |
|  |  |  |
| Parallelogram ABCD  • Segments AC and BD are diagonals of the parallelogram.  • The diagonals intersect at point L. • Segments AL and LC are marked congruent. • Segments DL and LB are marked congruent.  • LB equals 3. • LA equals 4.1. |  |  |
| 1. LC =      LD =
 |  |  |

**Part 2: Solve for x.**

|  |  |  |
| --- | --- | --- |
| **Parallelogram ABCD  • Segments AC and BD are diagonals of the parallelogram. • The diagonals intersect at point L. • Segments AL and LC are marked congruent. • Segments DL and LB are marked congruent. • LB equals 11. • LA equals 14. • LC equals 3x plus 2.**  |  | Parallelogram ABCD  • Segments AC and BD are diagonals of the parallelogram. • The diagonals intersect at point L. • Segments AL and LC are marked congruent.  • Segments DL and LB are marked congruent.  • LA equals 24. • LC equals 6x. |
| 1. x =
 |  | 1. x =
 |
|  |  |  |
| Parallelogram ABCD  • AB equals 2x and DC equals x plus 7. |  | Parallelogram ABCD  • AB equals 30, AD equals 24, and  DC equals 3x plus 3. |
| 1. x =
 |  | 1. x =
 |
|  |  |  |
| Parallelogram ABCD  • The measure of angle A equals x, and the measure of angle D equals 55 degrees. |  | Parallelogram ABCD  • The measure of angle A equals 9 x minus 10, and the measure of angle C equals 125 degrees. |
| 1. x =
 |  | 1. x =
 |

**Part 3 Complete the proof using the choices at the bottom
20. Given: ABCD is a parallelogram
 Prove: **

A. Definition of a parallelogram
B. CPCTC (Corresponding parts of congruent triangles are congruent)
C. Given
D. Alternate Interior Angles are congruent
E. Reflexive Property of congruence
F. ASA (Angle Side Angle)