Unit 4 Study Guide

Distance formula:

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| 1A. Determine the distance between points & . | 1B. Determine the distance between points & . | 1C. Determine the distance between points & . |

To translate is to move an entire figure a specific distance & direction by moving the endpoints and/or vertices.

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| 2A. Tim draws line segment with coordinates of and . He translates the line segment 2 units down. He names this line segment .   1. Identify the new coordinates of and . 2. Describe how a vertical translation changes the coordinates of the endpoints. | 2B. Caroline draws line segment with coordinates of and . She translates the line segment 7 units right. She names this line segment .   1. Identify the new coordinates of and . 2. Describe how a horizontal translation changes the coordinates of the endpoints. | 2C. Daryl draws line segment with coordinates of and . He translates the line segment 5 units up and 4 units right. He names this line segment .   1. Identify the new coordinates of and . 2. Describe how a vertical and a horizontal translation change the coordinates of the endpoints. |

To find the midpoint, add the *x*’s and divide by 2, then add the *y*’s and divide by 2.

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| 3A. Calculate the midpoint of a line segment with the endpoints and . | 3B. Calculate the midpoint of a line segment with the endpoints and . | 3C. Calculate the midpoint of a line segment with the endpoints and . |

Complementary means “adds to equal ”, and supplementary means “adds to equal ”

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| 4A. The measure of angle is .   1. What is the measure of an angle that is complementary to ? 2. What is the measure of an angle that is supplementary to ? | 4B. The measure of angle is .   1. What is the measure of an angle that is complementary to ? 2. What is the measure of an angle that is supplementary to ? | 4C. The measure of angle is .   1. What is the measure of an angle that is complementary to ? 2. What is the measure of an angle that is supplementary to ? |

To bisect is to cut in half.

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| 5A. Marcos bisects angle *ABC*. He labels a point on the bisector as *D*. Angle *ABC* is 82˚. What is the measure of angles *ABD* and *DBC?* | 5B. Julie bisects angle *KLM*. She labels a point on the bisector as *N*. Angle *KLN* is 37˚. What is the measure of angle KLM*?* | 5C. Janet bisects angle *PQR*. She labels a point on the bisector as *S*. Angle *PQR* is 146˚. What is the measure of angles *PQS* and *SQR?* |

Corresponding, alternate interior, alternate exterior & vertical angles are congruent *when the lines are parallel*. Same Side interior & linear pair angles add to equal  *when the lines are parallel*.

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| 6A. Given the figure, , determine the and provide the theorem or postulate you used. | 6B. Given the figure, , determine the and provide the theorem or postulate you used. | 6C. Given the figure, , determine the and provide the theorem or postulate you used. |
| 7A. In the figure, line *a* is parallel to line *b* and . Determine the and provide the postulate or theorems used. | 7B. In the figure, line *a* is parallel to line *b* and . Determine the and provide the postulate or theorems used. | 7C. In the figure, line *a* is parallel to line *b* and . Determine the and provide the postulate or theorems used. |

The two far away angles (remote interior angles) add to equal the outside angle (exterior angle).

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| 8A. Solve for *x* and find the measure of the exterior angle. | 8B. Solve for *x* and find the measure of the exterior angle. | 8C. Solve for *x* and find the measure of the exterior angle. |

The three angles of a triangle add to equal.

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| 9A. Find the value of *x* and the measurement of all of the angles. | 9B. Find the value of *x* and the measurement of all of the angles. | 9C. Find the value of *x* and the measurement of all of the angles. |

To find the third side of a right triangle, use the Pythagorean theorem: , where is the hypotenuse.

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| 10A. Find the measurement of the missing leg length. | 10B. Find the measurement of the missing leg length. | 10C. Find the measurement of the missing leg length. |