**Geometry Midterm Review 2016-2017 – Answer Key**

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| 10. statements | reasons |
| 1. 2. RQ || ST3. ∠RQU ≅ ∠TSU4. ∠ QRU ≅ ∠ STU5.  RUQ ≅  TUS | 1. Given2. Given3. Alternate interior angles are equal.4. Alternate interior angles are equal.5. ASA |

or

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| statements | reasons |
| 1. 2. RQ || ST3. ∠RQU ≅ ∠TSU4. ∠ RUQ ≅ ∠ TUS5.  RUQ ≅  TUS | 1. Given2. Given3. Alternate interior angles are equal.4. Vertical angles are equal.5. AAS |

1. x = 9
2. P = 38 units
3. m∠ 1 = 70°, m∠ 2 = 110°, m∠ 3 = 46°,
m∠ 4 = 102°, m∠ 5 = 37°
4. m ∠ 1 = 65°, m ∠ 2 = 25°
5. P (-a, 0), Q (0, b), D (a, 0), A (0, 0), C (2v, 0)
6. P = 140

examples: x = 5

H is a midpoint

EH = GH

EFG = is scalene

1. x = 30
2. m ∠DEB = 145°, m ∠ BFE = 35°
3.  ABC  DEC, AB = DE, BC = EC,
AC = DC, ∠A = ∠D, ∠B = ∠E, ∠BCA = ECD
4. see charts at right
5. see charts at right
6. Since DR ⊥ AG, ∠ DRA and ∠ DRG are both 90°.
DR is congruent to itself. RA ≅ RG is given.
Therefore D DRA ≅ D DRG by SAS.
7. Youngstown and Cleveland

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| 11. statements | reasons |
| 1. ∠ V ≅ ∠ S2. ≅ 3. ∠1 ≅ ∠24.  TRV ≅ QRS5. ≅  | 1. Given2. Given3. Vertical angles are equal.4. AAS5. CPCTC |

1. 11.18 ft
2. x = 27 mi
3. x =
4. slope = , distance = = 3, midpoint = ,
5. slope = , distance = , midpoint =
6. x = 21, y and z = 93
7. 118°
8. x = 4
9. a. parallel lines form congruent alternate exterior angles

b. parallel lines form supplementary consecutive interior angles

c. *l* and *m* are parallel

d. *l* and *m* are parallel

e. *l* and *m* are parallel

1. m∠1 = 95°
2. EF = 7
3. 40°50°140°220°90°
4. false, false, true, false
5. x = 11, x = 6
6. XW = 15
7. AL PL because a sides of a rhombs are equal. ∠NEA = 90 because diagonals of a rhombus are perpendicular. because diagonals of a rhombus bisect each other. NA || PL because rhombi are parallelograms. ∠NPE ∠EAL because parallel lines form alternate interior angles. ∠PLA ∠ANP because opposite angles are equal. ∠LNA ∠PLN because parallel lines form congruent alternate interior angles. ∠LEA = 90 because diagonals of a rhombus are perpendicular.
8. (10, -6)
9. Rhombus because all sides are equal, square because slopes are opposite reciprocals.
10. translation
11. rotation
12. across x-axis (6, 1), across y-axis (-6, -1), across y = x (-1, 6), across y = -x (1, -6)
13. Y(-7, 4)
14. X´ (1, 7)

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| 1. G´(-1, 5)

N´ (-3, 7)S´ (2, 8) | 1. B’ (0, 2)U’ (-5, 2)

J’ (-1, 4) |
| 1. G´(0, -3)

R´ (4, -4))L´ (-5, -1)Z´ (-2, 1) | 1. C’ (1, 4)K´ (5, 1)B´ (4, 0)L´ (0, -2)
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1. false
2. false
3. false
4. false
5. false
6. false
7. false
8. true