Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_

|  |
| --- |
|  |
| **What you need to know & be able to do** | **Things to remember** | **Problem** | **Problem** |
| Translations | * Find the new coordinates by adding/ subtracting the given value.
* Find the pre-image by doing the OPPOSITE.
* A translation is a rigid motion which means the pre-image and image are congruent
 | 1. Translate the following points by the rule:

D (-5, 2)→\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_O(-4, 5)→\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_G (-1, 1)→\_\_\_\_\_\_\_\_\_\_\_\_\_\_S(-4, -2)→\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Translation: (x, y) → (x – 2, y – 6)

 **Graph pre-image and image.** **C(3, 2) A(2, 4) T(3, 5) S(5,2)** |
| Reflections | * Reflect over x-axis: (x, -y)
* Reflect over y-axis: (-x, y)
* Reflect across y = x (switch x and y)
* Reflect across y = -x (switch x and y AND change their signs)
 | 1. Reflect across y = x
 | 1. Reflect across y = -x then reflect across the y-axis
 |
| Rotations | * 90CW/270CCW: (y, -x)
* 180: (-x, -y)
* 90CCW/270CW: (-y, x)
* **“drive the car”: the fist that goes over the other is the sign that changes; switch the order.**
 | 1. Rotate the figure 90 CW
 | 1. Rotate the figure 90 CCW
 |
| Dilations  | * Multiply the coordinates by the given scale factor (k)
* Pre-image and image are NOT congruent; they are similar.
* Dilations are NOT rigid motions
 | 1. A. Find the coordinates of the new vertices of the image that has been dilated by a factor of 5.

R (-4, 5)→A(-1, 1)→T (-4, -2)→1. http://www.glencoe.com/sec/math/studytools/books/0-07-888484-5/images/Chapter_9_Lesson_0_5.jpgFind the coordinates of the new vertices of the image that has been dilated by a factor of 1/2.

U(2, 4)→R(4,-6)→P(-2, 2)→ | 1. Find the scale factor of the outside image if the inside figure is the pre-image. (smaller to larger) >>> see next page
 |
| MultipleTransformations | * ORDER IS IMPORTANT
* Use the *previous* ordered pairs to do the next transformation.
 | 1. Given the points

**M (-3, 1) S (5, -2)** Translate: (x – 3, y + 2)Reflect: over y -axisM’ →S’ →M’’ →S’’ → | 1. Given the points

 **K (0, -4) P (-6, -3) R (1, 2)**Reflect: over the x-axisRotate: 270 CCWK’ →P’ →R’ →K’’ →P’’ →R’’ → |
| Angles of a triangle | * Angles add up to 180
* The exterior angle of a triangle is equal to the sum of the 2 remote interior angles
 | 1. The angles of a triangle measure x+14, 4x – 2, and 5x +8. Solve for x and find the 3 angle measures.

X=\_\_\_\_\_\_\_\_\_\_\_\_Angles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1. Given the sides lengths, find the interval of the 3rd side

a. 5 and 8b. 10 and 11 |
| 1. http://www.freemathhelp.com/images/lessons/exterior2.gif

X = \_\_\_\_\_\_\_\_\_ | 1. http://www.andrews.edu/~calkins/math/webtexts/g79b15a.jpg

X= |
| Special angle relationships | * Parallel lines cut by a transversal forms congruent and supplementary angles
* Angle relationships can be vertical, adjacent, alternate interior, alternate exterior, corresponding, same-side interior, and same-side exterior.
 | **15.**http://media.wiley.com/Lux/62/272462.image19.jpgCongruent angles:1 and \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_2 and \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_Supplementary angles:Angle 1 and \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_Angle 2 and \_\_\_\_\_,\_\_\_\_\_,\_\_\_\_\_**16**.If <3 = 2x + 20 and <5=3x+45, solve for x and find angles 5 and 3. **X=\_\_\_\_\_\_\_\_****<3=\_\_\_\_\_\_\_****<5=\_\_\_\_\_\_\_****17.** a. Solve for x.https://dr282zn36sxxg.cloudfront.net/datastreams/f-d%3Aca38ab0710d052576dd2f77a26c9dbd478f26fe51964cfe9e67c547c%2BIMAGE%2BIMAGE.1**18.** If m<5=110, find   m<8= \_\_\_\_\_\_\_\_ m<4=\_\_\_\_\_\_ m<2=\_\_\_\_\_\_\_\_\_m<7=\_\_\_\_\_\_\_https://dr282zn36sxxg.cloudfront.net/datastreams/f-d%3A2b8a8a37433afc31835e2172dc271de0e1a504f0f5e5b2a47f05dfad%2BIMAGE%2BIMAGE.1 | **19**.Relationships:Angles 1and 8:Angles1and 5:Angles 4 and 8:Angles 3 and 6:Angles 7and 6:Angles 7 and 8:Angles 3 and 5:Angles 2 and 8:**20.** If <6 =82 and <3 =2x+10, find x and angles 6 and 3.**X=\_\_\_\_\_\_\_\_m<6=\_\_\_\_\_\_****m<3=\_\_\_\_\_\_\_\_****21.** Solve for x.https://www.learningpod.com/apiproxy/content/d5ac5557-a31b-48f1-84a9-bd9a6c4a4951**22**. a. If <A = 110, find the angles the arrows are pointing to.http://hotmath.com/hotmath_help/topics/parallel-lines-and-transversals/graph1.gif |