**Quiz 1: Transformations**

**Instructions: 1. Choose the best possible answer.**

**2. Bubble completely one answer.**

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| 1. | What is the rule for a reflection across the *y*-axis followed by a translation 7 units to the right and 7 units up? |
|  | A. | (*x*' , *y*') = (*x* + 7 , *-y* + 7)  |
|  | B. | (*x*' , *y*') = (*x* - 7 , *-y* - 7)  |
|  | C. | (*x*' , *y*') = (*-x* + 7 , *y* + 7)  |
|  | D. | (*x*' , *y*') = (*-x* - 7 , *y* - 7)  |
| 2. | Given and *T<sub>h,k</sub> (x,y) = (x + h,y + k)* and *P* (-4, -3), what is *T,<sub>-2,1</sub>(P*)? |
|  | A. | *P* (6, 2)  |
|  | B. | *P* (2, 4)  |
|  | C. | *P* (-2, -2)  |
|  | D. | *P* (-3, -5)  |
| 3. | In the diagram, the dashed figure is the image of the solid figure. Name the image of ∠ E.  |
|  | A. | ∠ R  |
|  | B. | ∠ Q  |
|  | C. | ∠ E  |
|  | D. | ∠ T  |
| 4. | The vertices of a triangle are *P* (-7, -4), *Q* (-7, -8), and *R* (3, -3). Name the vertices of the image reflected in the line y = x. |
|  | A. | *P`* (4, 7), *Q`* (8, 7), *R`* (3, -3)  |
|  | B. | *P`* (4, -7), *Q`* (8, -7), *R`* (3, 3)  |
|  | C. | *P`* (-4, -7), *Q`* (-8, -7), *R`* (-3, 3)  |
|  | D. | *P`* (-4, 7), *Q`* (-8, 7), *R`* (-3, -3)  |
| 5. | Describe in words the transformation represented by the translation (x + 2, y - 1).  |
|  | A. | 2 units to the right and 1 units down  |
|  | B. | 1 units to the right and 2 units down  |
|  | C. | 2 units to the left and 1 units down  |
|  | D. | 2 units to the left and 1 units up  |
| 6. | Name the type of symmetry for the figure.  |
|  | A. | reflection  |
|  | B. | rotation  |
|  | C. | rotation and reflection  |
|  | D. | no symmetry  |
| 7. | Which of the following best describes a geometric dilation? |
|  | A. | A transformation that turns a figure around a point |
|  | B. | A transformation that slides a figure to a new location |
|  | C. | A transformation that flips a figure across a line |
|  | D. | A transformation that enlarges or reduces the size of a figure by a certain scale factor |
| 8. | A regular pentagon such as the one shown above has how many lines of symmetry that will map it onto itself? |
|  | A. | None |
|  | B. | 1 |
|  | C. | 4 |
|  | D. | 5 |
| 9. |   |
|  | A. | reflection over x-axis |
|  | B. | reflection over y-axis |
|  | C. |   |
|  | D. |   |
| 10. |   |
|  | A. |   |
|  | B. |   |
|  | C. |   |
|  | D. |   |
| 11. |   |
|  | A. |   |
|  | B. |   |
|  | C. |   |
|  | D. |   |
| 12. | Which statement is NOT true about Transformation T? |
|  | A. |   |
|  | B. |   |
|  | C. | The transformation has isometry. |
|  | D. | The image of A moved 2 units UP |
| 13. | Which transformation is shown by the above figure? |
|  | A. | Reflect over the y-axis. |
|  | B. | Reflect over the x- axis. |
|  | C. | Rotate 180 degrees |
|  | D. | There is no transformation performed. |
| 14. | Joseph graphed the given set of parallel line segments. Describe the final image of the line segments after a reflection over the y-axis and a translation (x , y) --> (x + 2, y - 10) |
|  | A. | The lines intersect at (-2, 1). |
|  | B. | The lines do not intersect and are the same distance apart as the original set of lines. |
|  | C. | The lines do not intersect and are further apart than the original set of lines. |
|  | D. | The lines do not intersect and are closer together than the original set of lines. |
| 15. | If figure ABCD is translated so that the image of point A' is at (-3, 2), then the coordinates of the image of point B will be |
|  | A. | (0,0) |
|  | B. | (-1, 4) |
|  | C. | (-2, -1) |
|  | D. | (-3, 1) |
| 16. | Which Transformation maps the pentagon to itself? |
|  | A. | A reflection across line m |
|  | B. | A reflection across x-axis |
|  | C. | A reflection across y-axis |
|  | D. | A clockwise rotation of 144 degree about the origin |
| 17. | Which series of transformations will carry rectangle STUV onto itself? |
|  | A. | Reflection over the y-axis, clockwise rotation by 180 degree about the origin, reflection over the y-axis. |
|  | B. | Reflection over the x-axis, reflection over the y-axis, counterclockwise rotation by 270 degree about the origin. |
|  | C. | Reflection over the y-axis, reflection over the x-axis, counterclockwise rotation by 180 degree about the origin. |
|  | D. | Reflection over the x-axis, reflection over the y-axis, clockwise rotation by 90 degree about the origin. |
| 18. | After nonzero transformation K to polygon P has been performed four consecutive times, polygon P has returned to its original position in the plane. Which of the following could **not** describe transformation K? |
|  | A. | A reflection over a fixed line |
|  | B. | A rotation by 90 degree about a fixed point |
|  | C. | A rotation by 180 degree about a fixed point |
|  | D. | A translation by (a, b) units in the plane |
| 19. | Which sequence of transformations will carry each pre image onto its image? |
|  | A. | Translate 2 units to the left, then 6 units down |
|  | B. | Translate 6 units DOWN, then Reflect over Y-axis |
|  | C. | Rotate 180 degrees |
|  | D. | Reflect over the x - axis, then translate 3 units to the left |
| 20. | Which of the following sequence of transformations DOES NOT describe the transformation shown above? |
|  | A. | Reflect over the x- axis. |
|  | B. | Reflect over y = 1, the translate 2 units down |
|  | C. | Translate 4 units down, then reflect over y = -2 |
|  | D. | Translate 2 units down, then reflect over the x-axis. |