Transformation Quiz Review Honors Geometry Name KEY

ite the rule of the transformation.

1) A figure is translated 3 units right and 2 units down.

$(x,y) \rightarrow (x+3, y-2)$

2) A figure is reflected about the y-axis.

$(x,y) \rightarrow (-x,y)$

3) A figure is rotated 90 degrees CW.

$(x,y) \rightarrow (y,-x)$

4) A figure is reflected about the line y = 4.

$(x,y) \rightarrow (x,-y+8)$

5) A figure is translated <3, -1> and reflected about the x-axis.

$(x-y) \rightarrow (x+3, y-1) \rightarrow (x+3, -y+1)$

6) A figure is rotated 90 degrees ~~CW~~ CCW.

$(x,y) \rightarrow (-y,x)$

7) A figure is reflected about the line y = x.

$(x,y) \rightarrow (y,x)$

8) A figure is rotated 90 degrees CCW about the point (2, 6).

$(x,y) \rightarrow (x-2, y-6) \rightarrow (-y+6, x-2) \rightarrow (-y+8, x+4)$

Describe the transformation.

9) (x, y) → (x + 1, y –4)
TRANSLATE RIGHT 1 DOWN 4

10) (x, y) → (y, –x)
ROTATION 90° CW

11) (x, y) → (–x, y + 3)
GLIDE REFLECTION... REFLECT OVER Y-AXIS TRANS UP 3

12) (x, y) → (x + 2, y)
TRANSLATE 2 RIGHT

13) (x, y) → (y – 2, x – 2)
REFLECT OVER y=x TRANSLATE <-2,-2>

14) (x, y) → (y, x)
REFLECTION OVER y = x

15) (x, y) → (x , – y)
REFLECT OVER THE X-AXIS

16) (x, y) → (–y, –x)
REFLECTION OVER y = –x

17) (x, y) → (–y, x + 1)
ROTATE 90° CCW & TRANSLATE UP 1

Find the specified image coordinate.

18) If A(2, –5) is rotated 90° CCW about M(3, –1), what is A'?

$(x,y) \rightarrow (x-3, y+1) \rightarrow (-y-1, x-3) \rightarrow (-y+2, x-4)$

A'(7, -2)

19) If L(–2, –2) is translated 4 units left and 5 units up, what is L'?

L' (-6, 3)

20) If A is reflected about y = –1, the image, A', is (4, 10). What is A?

A(4, -12)

21) If L is rotated 180° CW about W(2, 0), its image, L', is (-3, -4). What is L?

L(7, 4)

Short answer.

22) A line segment $\overline{TP}$ is rotated 90° CCW about the fixed point of J. How are T, J and T' related?

$\overline{TJ} \perp \overline{T'J}$ OR $\angle TJT'$ IS RIGHT

23) A line segment $\overline{RS}$ is translated by the vector <3, 4>. How are $\overline{RR'}$ and $\overline{SS'}$ related?

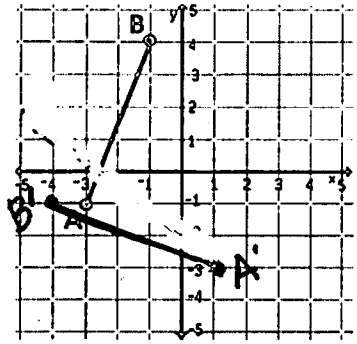
$\overline{RR'} \parallel \overline{SS'}$ & $\overline{RR'} \cong \overline{SS'}$

24) A line segment $\overline{AB}$ is reflected across the line $\overline{XY}$. How are $\overline{BB'}$ related to $\overline{XY}$?

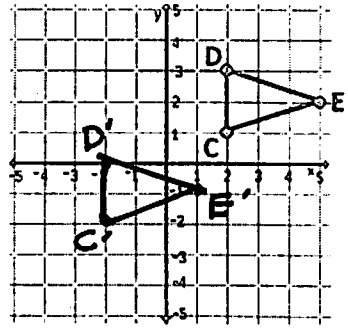
$\overline{XY} \perp$ bis of $\overline{BB'}$

Complete the transformation of the new image. If the rule was provided, describe the transformation. If the transformation was described, write the rule.

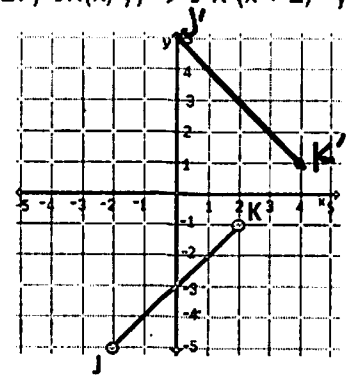
25) AB(x, y) → A'B'(−y, x) ROTATE 90° CCW



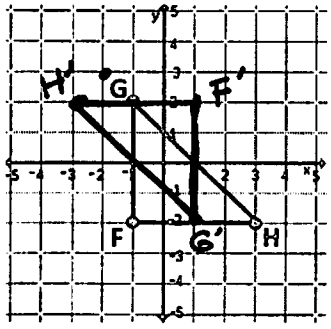
26) ΔCDE (x, y) → ΔC'D'E' (x − 4, y − 3) TRANSLATE ⟨−4, −3⟩



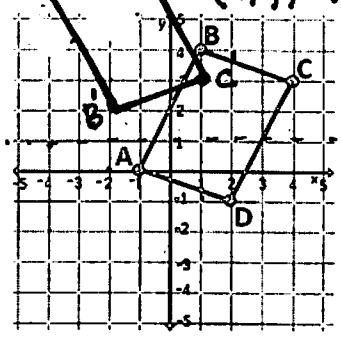
27) JK(x, y) → J'K'(x + 2, −y) TRANSLATE 2 RIGHT REFLECT OVER X-AXIS



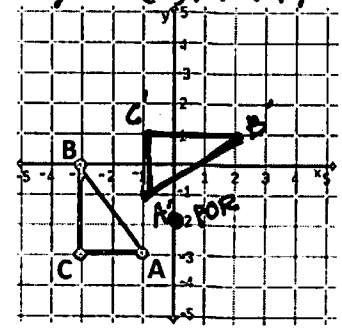
28) Rotate FGH by 180°. $(x, y) \rightarrow (-x, -y)$



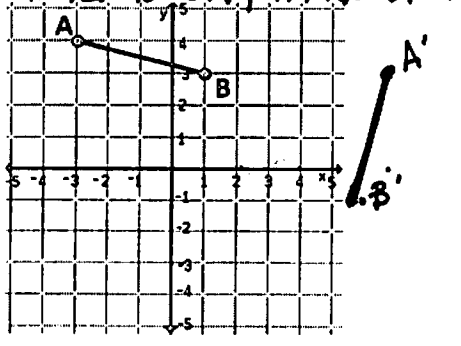
29) Translate ABCD by ⟨−3, −4⟩ and then reflect it over y = 1. $(x, y) \rightarrow (x-3, -y+6)$



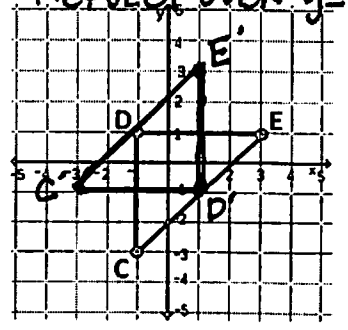
30) Rotate ABC 90° CW about the point (0, −2) $(x, y) \rightarrow (x, y+2) \rightarrow (y+2, -x)$ $(y+2, -x-2)$



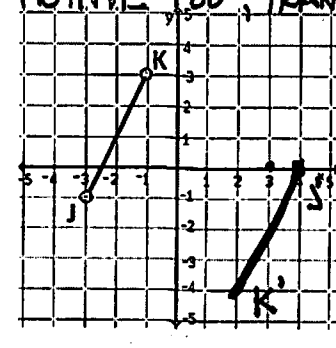
31) AB(x, y) → A'B'(y + 3, −x) ROTATE 90° CW, TRANS UP 3



32) ΔCDE (x, y) → ΔC'D'E' (y, x) REFLECT OVER y = x

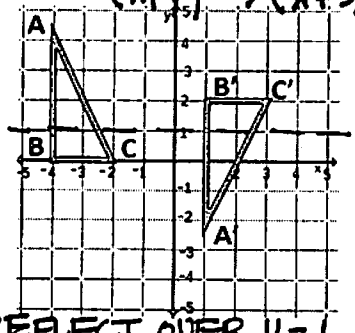


33) $\overline{JK}(x, y) \rightarrow \overline{J'K'}(-x + 1, -y - 1)$ ROTATE 180°, TRANSLATE 1 RIGHT 1 DOWN



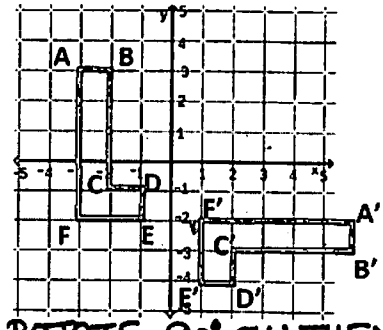
Describe in words the transformation shown and write the rule for this transformation.

34) $(x, y) \rightarrow (x+5, -y+2)$



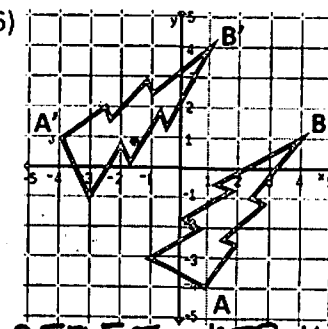
REFLECT OVER y = 1
TRANSLATE 5 RIGHT

35)



ROTATE 90° CW THEN TRANSLATE ⟨3, −5⟩
$(x, y) \rightarrow (y, -x) \rightarrow (y+3, -x-5)$

36)



REFLECT OVER y = x
$(x, y) \rightarrow (y, x)$