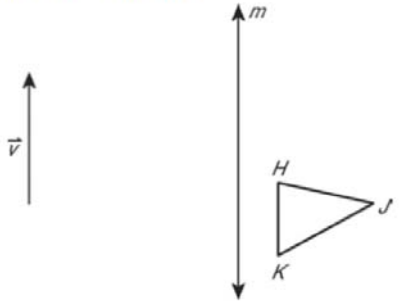
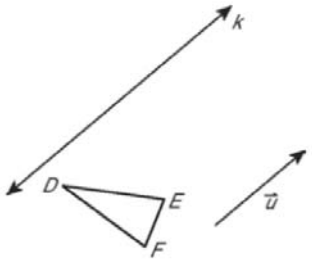
Draw the result of each composition of transformations.

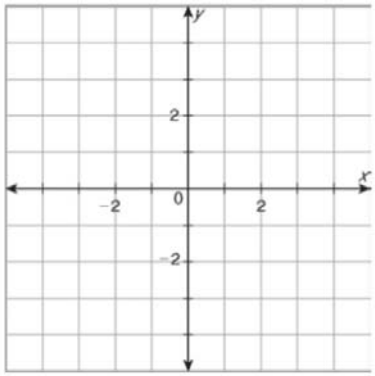
1. Translate $\triangle HJK$ along $\bar{v}$ and then reflect it across line m.



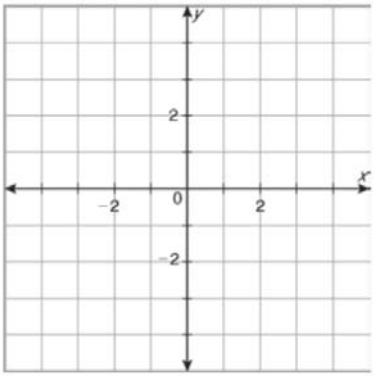
2. Reflect $\triangle DEF$ across line k and then translate it along $\bar{u}$.



3. $\triangle ABC$ has vertices $A(0, -1)$, $B(3, 4)$, and $C(3, 1)$. Rotate $\triangle ABC$ 180° about the origin and then reflect it across the x-axis.

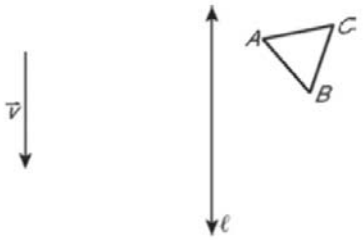


4. $\triangle QRS$ has vertices $Q(2, 1)$, $R(4, -2)$, and $S(1, -3)$. Reflect $\triangle QRS$ across the y-axis and then translate it along the vector $\langle 1, 3 \rangle$.

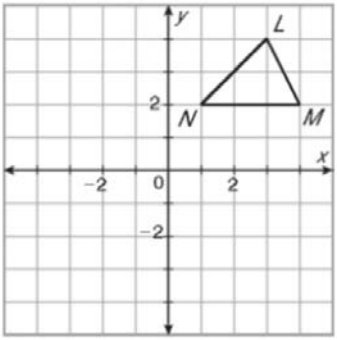


Draw the result of each composition of isometries.

5. Reflect $\triangle ABC$ across line ℓ and then translate it along $\bar{v}$.

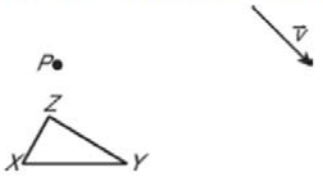


6. $\triangle LMN$ has vertices $L(3, 4)$, $M(4, 2)$, and $N(1, 2)$. Rotate $\triangle LMN$ 180° about the origin and then translate it along the vector $\langle 0, 4 \rangle$.

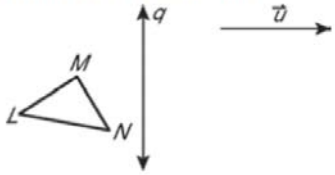


Draw the result of each composition of isometries.

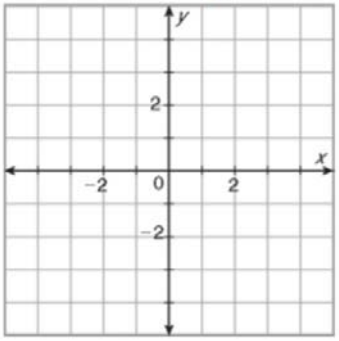
7. Rotate $\triangle XYZ$ 90° about point P and then translate it along $\bar{v}$.



8. Reflect $\triangle LMN$ across line q and then translate it along $\bar{u}$.



9. $ABCD$ has vertices $A(-3, 1)$, $B(-1, 1)$, $C(-1, -1)$, and $D(-3, -1)$. Rotate $ABCD$ 180° about the origin and then translate it along the vector $\langle 1, -3 \rangle$.



10. $\triangle PQR$ has vertices $P(1, -1)$, $Q(4, -1)$, and $R(3, 1)$. Reflect $\triangle PQR$ across the x-axis and then reflect it across $y = x$.