7.12 Do Now: Transformations

August 2019 DilationOn the set of axes below, $\overline{AB}$ is dilated with a scale factor of $\frac{5}{2}$ centered at point P. Which of the following is/are true: $\overline{AP} \cong \overline{AA'}$ $\overline{AB} \parallel \overline{A'B'}$ $AB = A'B'$ $\frac{5}{2}(A'B') = AB$ Graphing (scaffold to graph on exam stationary) The coordinates of the vertices of parallelogram $CDEH$ are $C(5,5)$, $D(2,5)$, $E(1,1)$, and $H(8,1)$. What are the coordinates of P, the point of intersection of diagonals $\overline{CE}$ and $\overline{DH}$? Isosceles angle situation (6) Vocabulary situations: show circle with parts Given the circle, points, and line segments depicted below, circle whether each statement is true or false. (Circle with chords, secant, radius, diameter, arc, center, circumference, semicircle, tangent, perpendicular situations) Triangle vocabulary: vertex, side, hypotenuse, acute, obtuse, perpendicular, median, altitude, perpendicular bisector, Equation of a circle competencies Situations with right triangle hypotenuses as circle radii. Expand the expression $(x+3)^2$ to the form ax^2+bx+c. Factor the expression x^+6x+9 as a perfect square. Simplify the radical $\sqrt{50}$. What are the coordinates of the center and the length of the radius of the circle whose equation is $x^2+y^2 = 8x-6y+39$? Angle measures Use the tangent function to determine the measure of the central angle θ. A regular pentagon is inscribed in a circle as shown below. What is the measure of the central angle between two consecutive vertices, $m\angle AOB$? Formulas for the area and circumference of circles: $A = \pi r^2$ $C = \pi D = 2\pi r$ Find the area of a circle with radius 4 cm. Find the radius of a circle having an area of 25π.

14. The line $-3x+4y=8$ is transformed by a dilation centered at the origin. Which linear equation could represent its image?

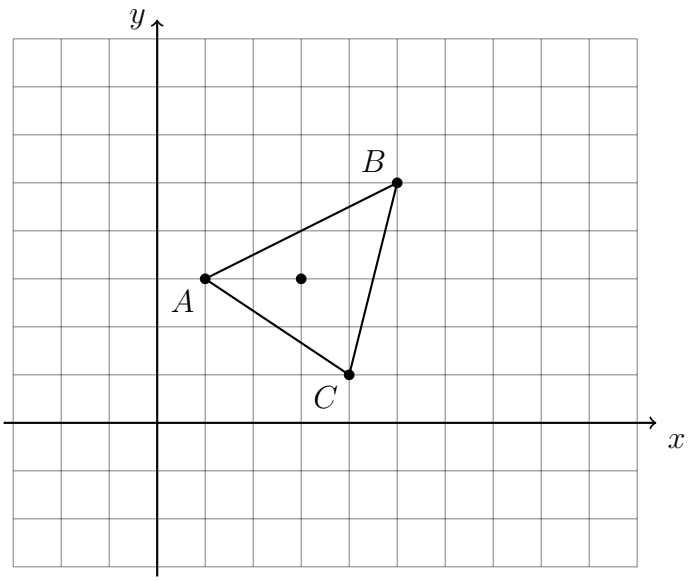
(a) $y=\frac{4}{3}x+8$

(b) $y=\frac{3}{4}x+8$

(c) $y=-\frac{3}{4}x-8$

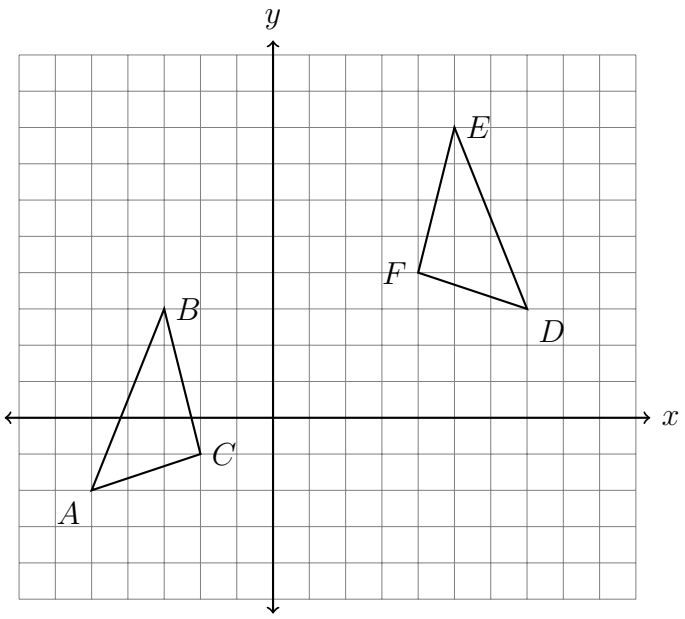
(d) $y=-\frac{4}{3}x-8$

15. Apply a dilation mapping $\triangle ABC \to \triangle A'B'C'$ with a factor of $k=2$ centered at $(3,3)$. Draw and label the image on the grid and make a table of the coordinates.

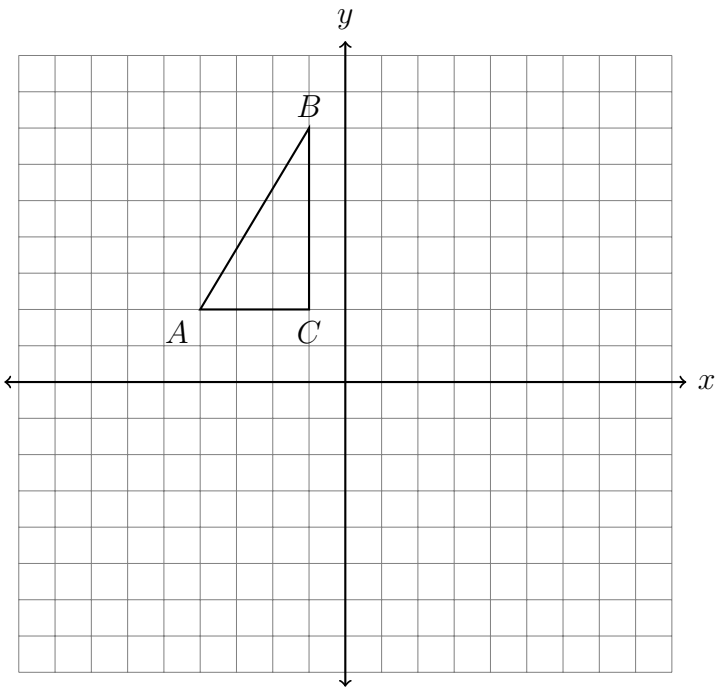


16. Find the image of $P(3,5)$ after a reflection over the x-axis.

17. What transformation maps $\triangle ABC$ onto $\triangle DEF$, shown below? Fully specify the transformation.


y
x
E
F
D
B
C
A

18. Plot two transformations. Rotate $\triangle ABC$ clockwise 90° around the origin, then reflect the result across the x-axis. Make a table of the coordinates and plot and label the images on the axes.



19. A translation maps $A(-2, 1) \rightarrow A'(5, 1)$. What is the image of $B(3, -1)$ under the same translation?

20. Reflect $\triangle ABC$ over the y-axis. Plot and label the image on the axes and make a table of the coordinates showing $\triangle ABC \rightarrow \triangle A'B'C'$.