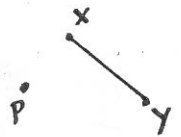
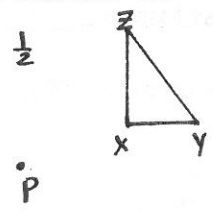


#11-13, Dilate each with P as the center of dilation and scale factor (sf) given.

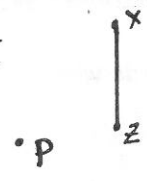
11. $sf = 3$



12. $sf = \frac{1}{2}$

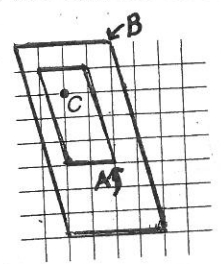


13. $sf = -2$

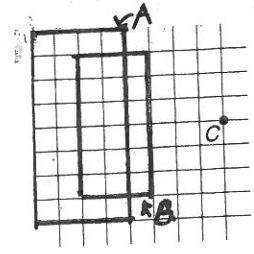


#14-15, Determine the scale factor for each dilation with center of C. A is the preimage, B is image

14.



15.



Compositions

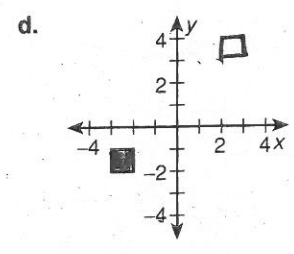
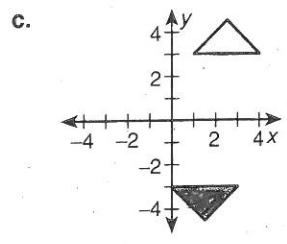
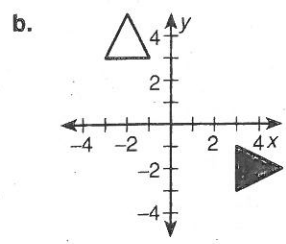
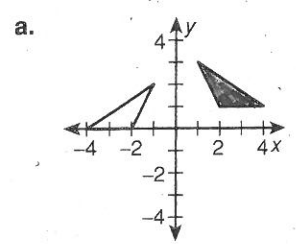
#16-19, Match the vector and line of reflection with the diagram depicting change. (Preimages not shaded, image shaded)

16. Vector: $\langle 0, 0 \rangle$
Line: $y = x$

17. Vector: $\langle 0, 1 \rangle$
Line: $x = 0$

18. Vector: $\langle -1, 0 \rangle$
Line: $y = 0$

19. Vector: $\langle -1, -1 \rangle$
Line: $y = -x$



#20-22, Perform each composition transformation.

20 $\langle -3, 1 \rangle$, reflect over x-axis

21. $\langle 2, 0 \rangle$, rotate about origin 90° clockwise

22. reflect over $y = -x$, then rotate 180° about $(0,0)$

