

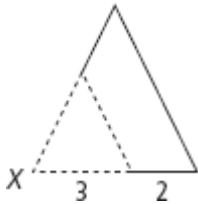
9-6 Practice

Form G

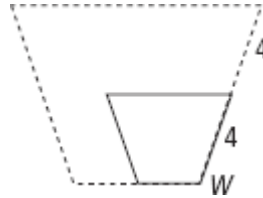
Dilations

The solid-line figure is a dilation of the dashed-line figure. The labeled point is the center of dilation. Tell whether the dilation is an enlargement or a reduction. Then find the scale factor of the dilation.

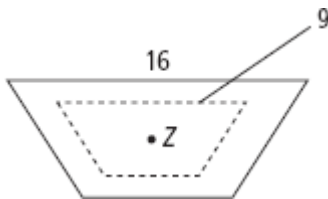
1.



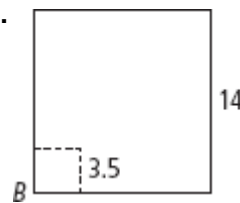
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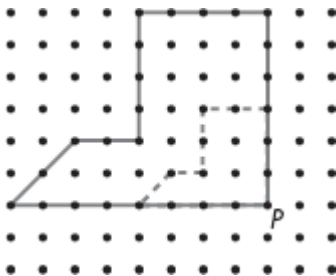
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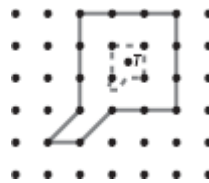
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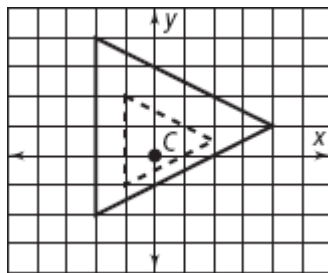
5.



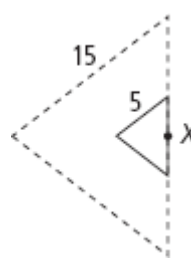
6.



7.



8.



You look at each object described in Exercises 9–11 under a magnifying glass. Find the actual dimension of each object.

9. The image of a ribbon is 10 times the ribbon's actual size and has a width of 1 cm.
10. The image of a caterpillar is three times the caterpillar's actual size and has a width of 4 in.
11. The image of a beetle is five times the beetle's actual size and has a length of 1.75 cm.
12. $\Delta P'Q'R'$ is a dilation image of ΔPQR . The scale factor for the dilation is 0.12. Is the dilation an enlargement or a reduction?

9-6 Practice (continued)

Form G

Dilations

A dilation has center $(0, 0)$. Find the image of each point for the given scale factor.

13. $X(3, 4); D_7(X)$

14. $P(-3, 5); D_{1.2}(P)$

15. $Q(0, 4); D_{3.4}(Q)$

16. $T(-2, -1); D_4(T)$

17. $S(5, -6); D_{\frac{5}{3}}(S)$

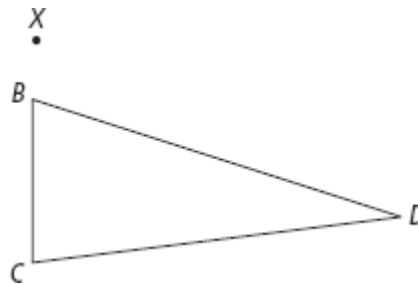
18. $M(2, 2); D_5(M)$

19. A square has 16-cm sides. Describe its image for a dilation with center at one of the vertices and scale factor 0.8.

20. Graph pentagon $ABCDE$ and its image $A'B'C'D'E'$ for a dilation with center $(0, 0)$ and a scale factor of 1.5. The vertices of $ABCDE$ are: $A(0, 3)$, $B(3, 3)$, $C(3, 0)$, $D(0, -3)$, $E(-1, 0)$.

Copy $\triangle BCD$ and point X for each of Exercises 21–23. Draw the dilation image $\triangle B'C'D'$.

21. $D_{(1.5, X)}(\triangle BCD)$



22. $D_{(1.5, B)}(\triangle BCD)$

23. $D_{(0.8, C)}(\triangle BCD)$