

Name : \_\_\_\_\_

## Dilation

Sheet 2

- 1) The dilated coordinates are  $T'(1, 8)$ ,  $U'(10, -10)$  and  $V'(16, -13)$ . Find the original coordinates, if the center of dilation is  $(7, -7)$  and the scale factor is  $\frac{3}{7}$ .
- \_\_\_\_\_

- 2) The vertices of a parallelogram are  $P(-6, 8)$ ,  $Q(-2, 8)$ ,  $R(-4, 6)$  and  $S(-8, 6)$ . They are dilated to  $P'(-6, 7)$ ,  $Q'(0, 7)$ ,  $R'(-3, 4)$  and  $S'(-9, 4)$  with a scale factor of 1.5. Determine the center of dilation.

- 3) ABCD is dilated to A' and B' with a scale factor of 2. The coordinates of the center of dilation are  $(7, 5)$ . The coordinates of A' are  $(26, -4)$  and D' are  $(-20, -16)$ . Find the dilated coordinates of B' and C'.
- \_\_\_\_\_

- 4) Write the coordinates of the dilated image of a triangle with vertices  $A(2, 3)$ ,  $B(4, 5)$  and  $C(6, 7)$  if the center of dilation is  $(1, 1)$  and the scale factor is  $\frac{9}{8}$ .
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- 5) The dilated coordinates of a triangle are  $A'(12, 15)$ ,  $B'(18, 21)$  and  $C'(24, 27)$ . The original coordinates of the triangle are  $A(4, 5)$ ,  $B(6, 7)$  and  $C(8, 9)$ . Find the original coordinates of the center of dilation.
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- 6) The vertices  $L(-3, 0)$ ,  $M(0, -2)$  and  $N(-6, -3)$  are dilated to  $L'(-27, -6)$ ,  $M'(-6, -20)$  and  $N'(-48, -27)$  with a scale factor of 7. Find the center of dilation.
- \_\_\_\_\_

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- 1) The dilated coordinates are  $T'(1, 8)$ ,  $U'(10, -10)$  and  $V'(16, -13)$ . Find the original coordinates, if the center of dilation is  $(7, -7)$  and the scale factor is  $\frac{3}{7}$ .

**$T(-7, 28), U(14, -14), V(28, -21)$**

- 2) The vertices of a parallelogram are  $P(-6, 8)$ ,  $Q(-2, 8)$ ,  $R(-4, 6)$  and  $S(-8, 6)$ . They are dilated to  $P'(-6, 7)$ ,  $Q'(0, 7)$ ,  $R'(-3, 4)$  and  $S'(-9, 4)$  with a scale factor of 1.5. Determine the center of dilation.

- 3) ABCD is dilated to A' and B' with a center of dilation is  $(7, 5)$ . The coordinates of the center of dilation are  $(26, -4)$  and  $D(-20, -16)$ . Find the dilated coordinates of C and D.

**$A'(1, 1)$**

- 4) Write the coordinates of the vertices of the dilated figure.

scale factor is  $\frac{9}{8}$ .

- 5) The dilated coordinates are  $E'(14, 22)$ ,  $F'(-9, 12)$ ,  $G'(-4, 7)$  and  $H'(-19, 17)$ . Find the original coordinates, if the center of dilation is  $(1, 1)$  and the scale factor is 7.

**$E(-14, 22), F(-9, 12), G(-4, 7), H(-19, 17)$**

- 6) The vertices  $L(-3, 0)$ ,  $M(0, -2)$  and  $N(-6, -3)$  are dilated to  $L'(-27, -6)$ ,  $M'(-6, -20)$  and  $N'(-48, -27)$  with a scale factor of 7. Find the center of dilation.

**$(1, 1)$**

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