10.2

Dilation Notes Continue (Dilation NOT about the origin)

Example 1

* Dilate by 2 using (-1, 0)

① mark your dilation pt. on the graph
② look at each pt./vertex one at a time

Pt. A - figure out how many units the x coordinate is away from the dilation pt. then multiple by the scale factor

* the x-coordinate is 1 unit away from the dilation pt. (1 x 2 = 2)

* the new image pt. is 2 units away from the dilation pt.

- then figure out how many units the y-coordinate is away from the dilation pt

* the y-coordinate is -3 units away from the dilation pt. (-3 x 2 = -6)

* the new image pt. is -6 units away from the dilation pt.

Dilation using (-1, 0)

Pt. A is now $(x, y) \rightarrow (x+2, y-6)$

$(-1, 0) \rightarrow (-1+2, 0-6)$

$(1, -6)$

new image pt.

* Pt. B — -x is 3 units away $(3 \cdot 2 = 6)$

-y is 3 units away $(-3 \cdot 2 = -6)$

$(x, y) \rightarrow (x+6, y-6)$

$(-1, 8) \rightarrow (-1+6, 8-6) \rightarrow (5, -6)$

* Pt. C — x is 3 units away $(3 \cdot 2 = 6)$

y is -5 units away $(-5 \cdot 2 = -10)$

$(x, y) \rightarrow (x+6, y-10)$

$(-1, 0) \rightarrow (-1+6, -0-10) \rightarrow (5, -10)$

(3) Now regraph your dilated image.

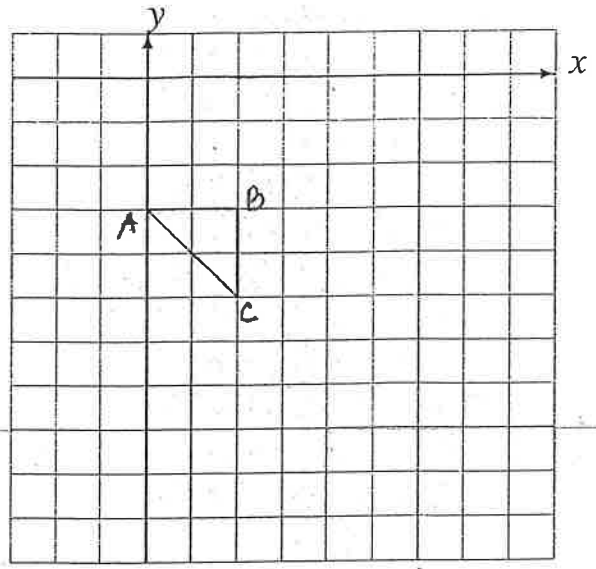
10-2 Digits : Similar Figures

Dilations (B)

Draw the dilated image.

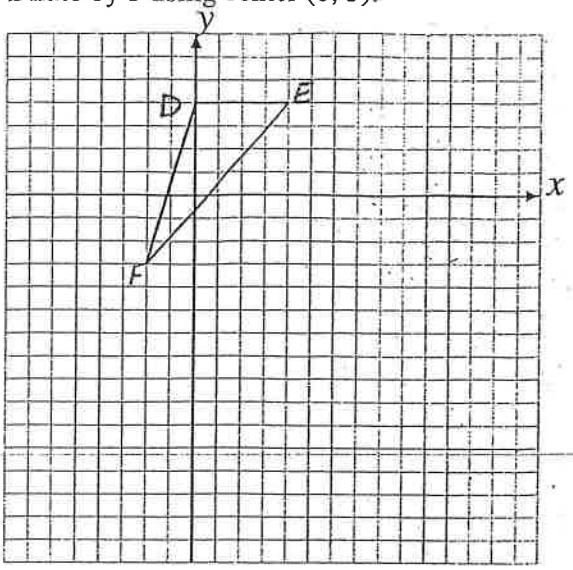
Example 1

Dilate by 2 using center (-1, 0).

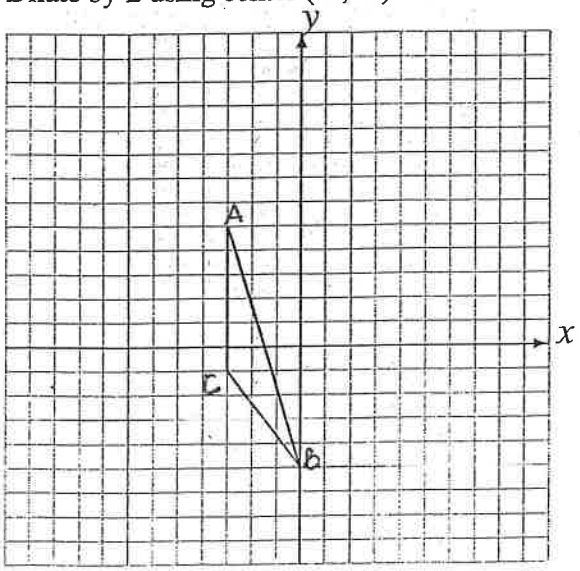


Got it? 1

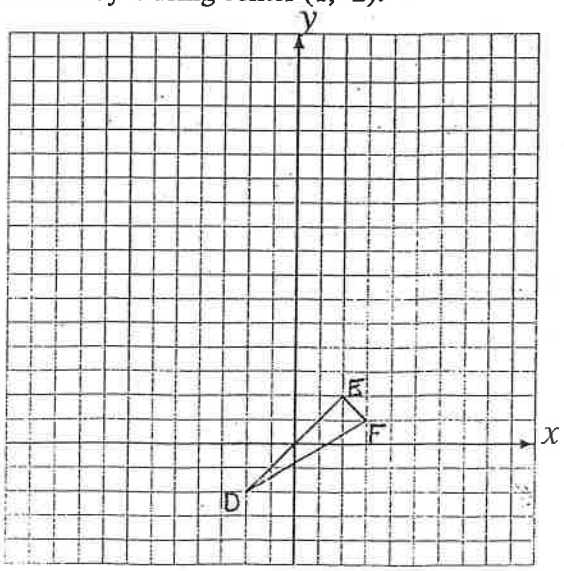
Dilate by 3 using center (0, 3).



1. Dilate by 2 using center (-2, -2).



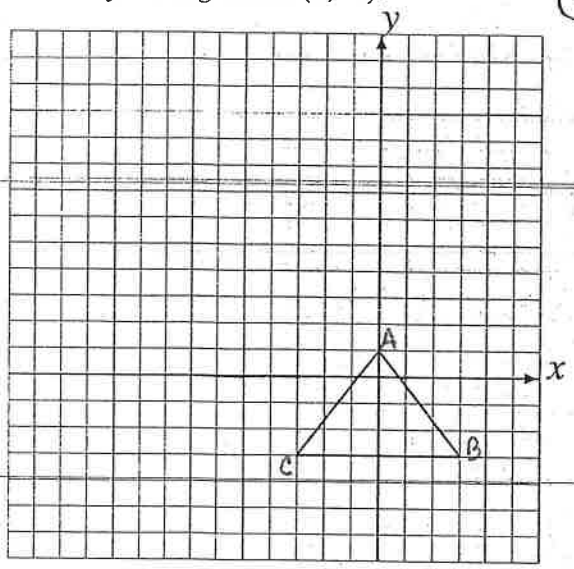
2. Dilate by 4 using center (1, -2).



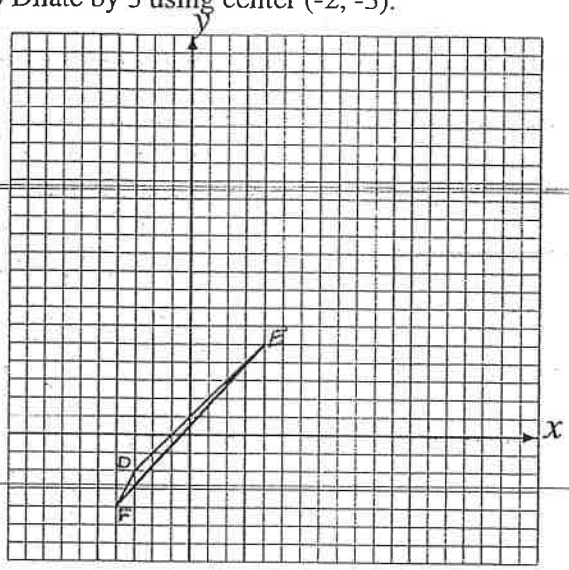
Dilations (E)

Draw the dilated image.

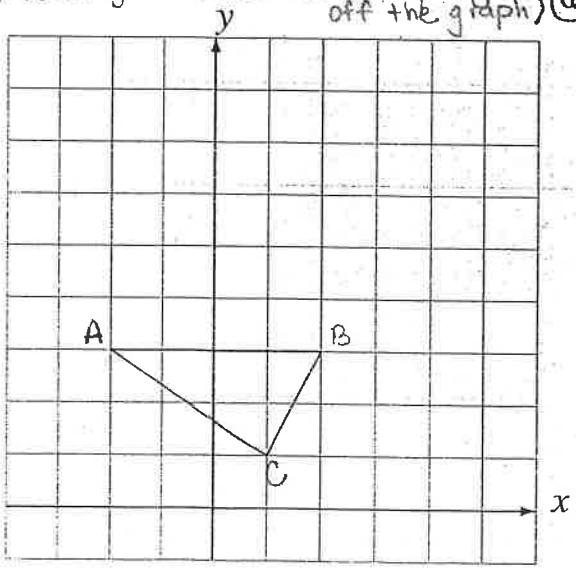
(3) Dilate by 3 using center (2, -3).



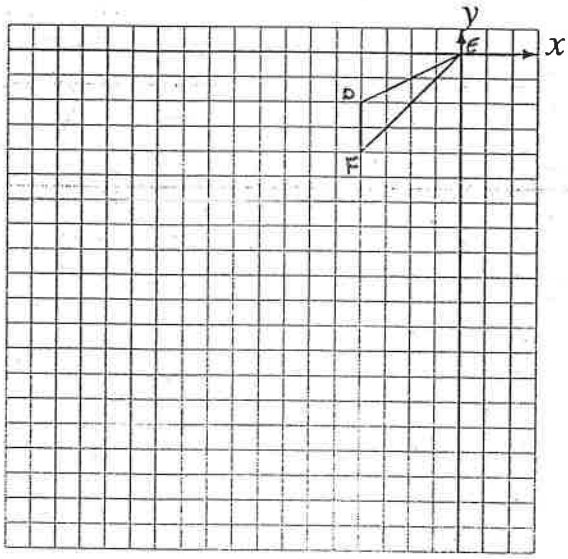
(4) Dilate by 3 using center (-2, -3).



(5) Dilate by 2 using center (-1, -2).
(It is alright if the dilation pt. goes off the graph)



(6) Dilate by 4 using center (0, 1).



10-2 Digits : Similar Figures

Key

Dilations (B)

Draw the dilated image.

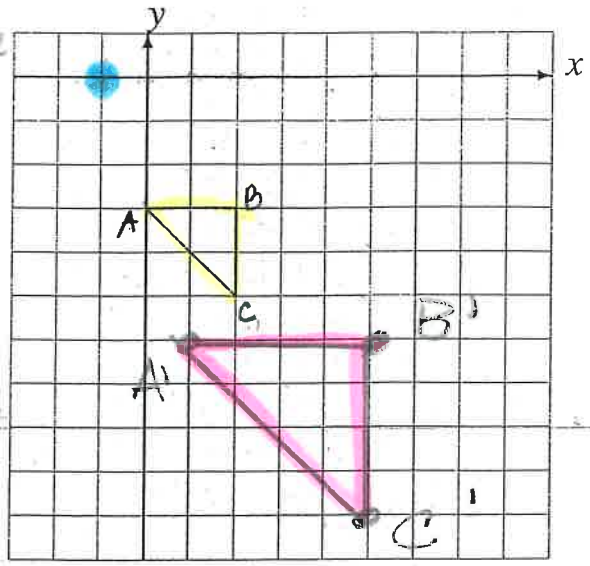
Example 1

Dilate by 2 using center (-1, 0).

(A)

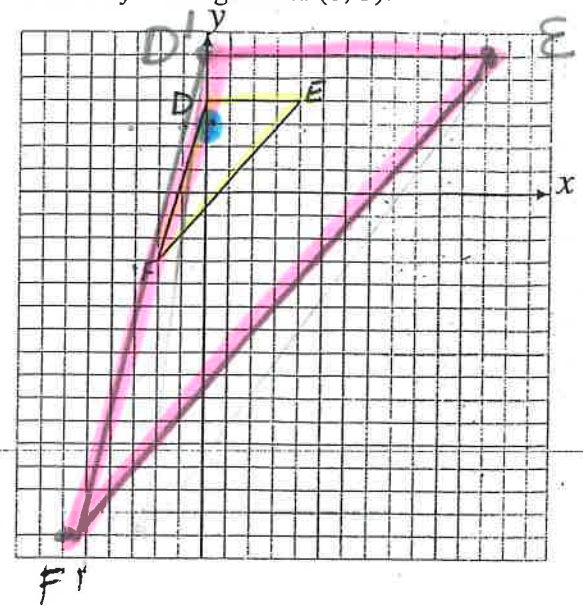
x-coordinate
move 2 to the right
FROM THE DILATION PT.

y-coordinate
move 6 down
FROM THE DILATION PT.

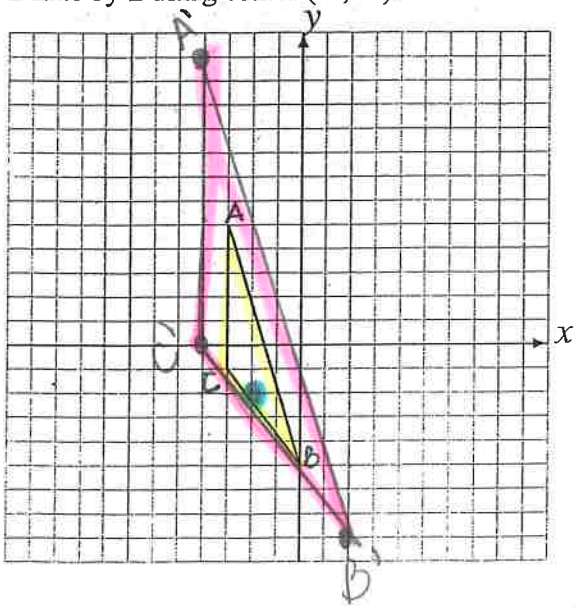


Got it? 1

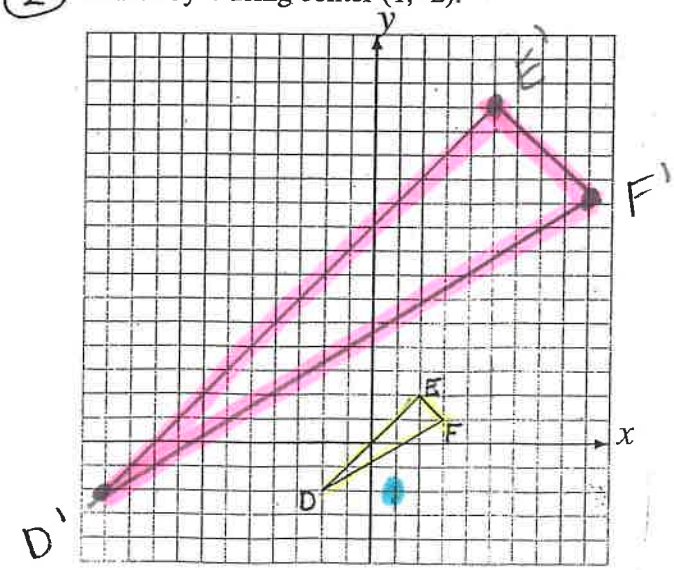
Dilate by 3 using center (0, 3).



(1) Dilate by 2 using center (-2, -2).



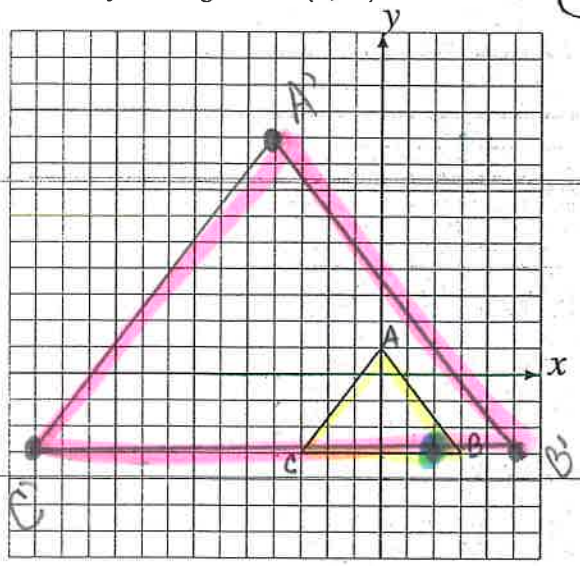
(2) Dilate by 4 using center (1, -2).



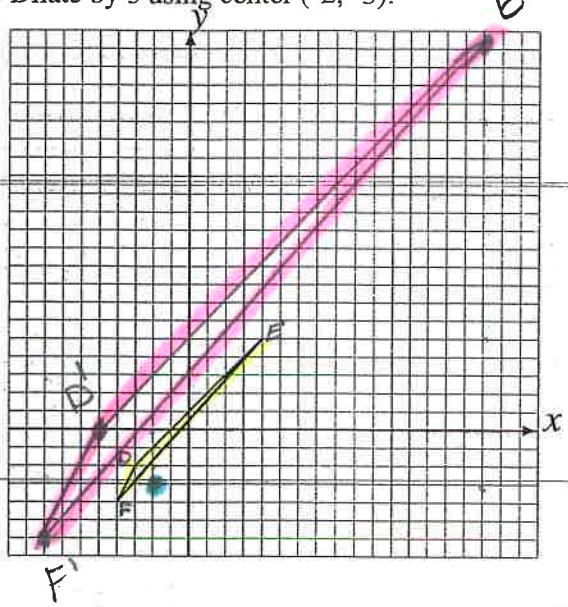
Dilations (E)

Draw the dilated image.

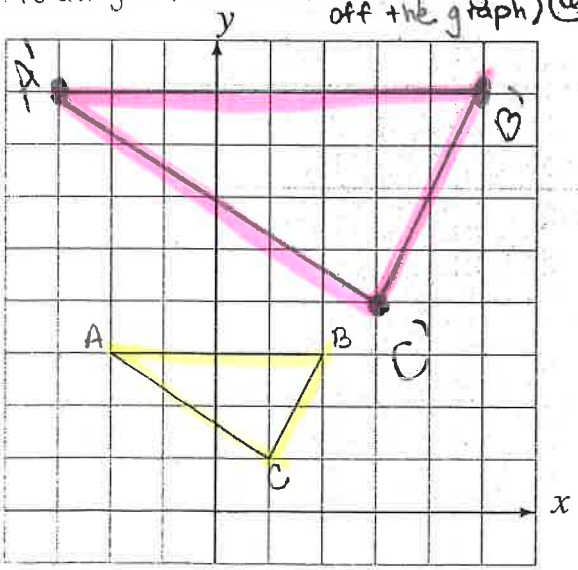
(3) Dilate by 3 using center (2, -3).



(4) Dilate by 3 using center (-2, -3).



(5) Dilate by 2 using center (-1, -2). (It is alright if the dilation pt. goes off the graph)



(6) Dilate by 4 using center (0, 1).