Shorte	it		
slope is	always	the same	

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Date Geometry

Line Dilations Practice

1. The line y = 3x - 2 is dilated by a scale factor of 2 and centered at the origin. Write an equation that represents the image of the line after the dilation. multilly scale factor and b

1)
$$y = 3x - 2$$

$$M=3$$

$$y = 3x - 4$$

3) $y = 6x - 2$

4)
$$y = 6x - 4$$

2. The line y=3x-2 is dilated by a scale factor of 2 and centered at (-1,-5). Write an equation that represents the image of the line after the dilation.

1)
$$y = 3x - 2$$

2) $y = 3x - 4$

3)
$$y = 6x - 2$$

4)
$$y = 6x - 4$$

3. The line $y = -\frac{1}{2}x + 6$ is dilated by a scale factor of 4 and centered at (2,5). Write an equation not oligin that represents the image of the line after the dilation.

1)
$$y = -\frac{1}{2}x + 6$$

2)
$$y = -\frac{1}{2}x + 24$$

3)
$$y = -2x + 6$$

4)
$$y = -2x + 24$$

4. The line $y = -\frac{1}{2}x + 6$ is dilated by a scale factor of 4 and centered at the origin. Write an equation that represents the image of the line after the dilation.

1)
$$y = -\frac{1}{2}x + 6$$

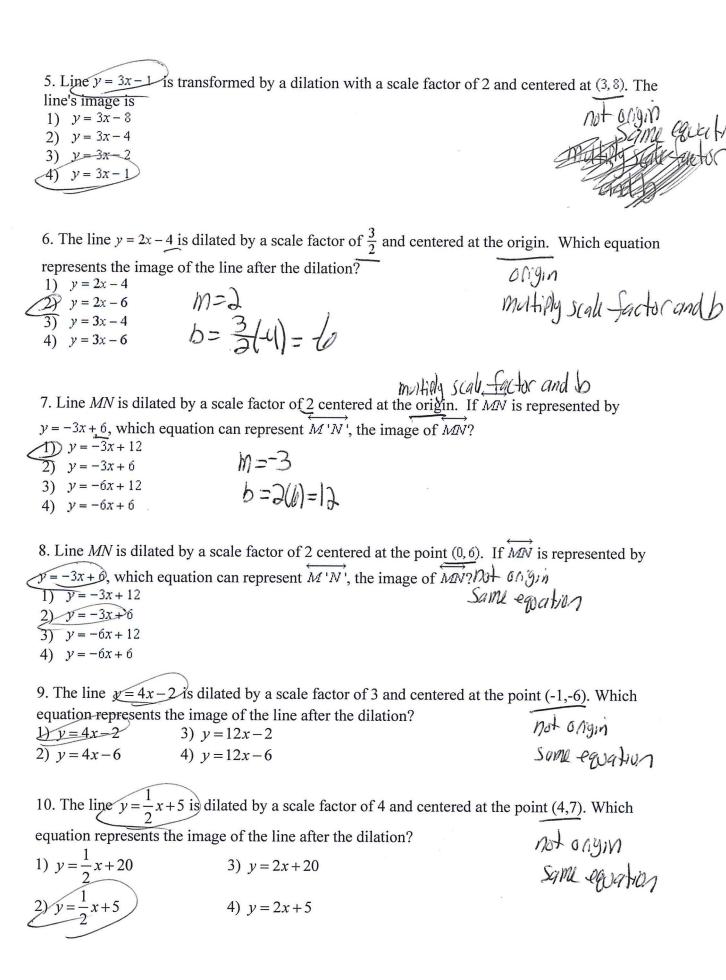
(2)
$$y = -\frac{1}{2}x + 24$$

3) $y = -2x + 6$

$$m = -\frac{1}{3}$$

 $b = 4(b) = 34$

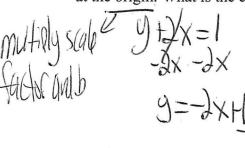
4)
$$y = -2x + 24$$



factor 4 with respect	to the origin. What is the equ	ation of the line m ?	
1) $y = -2x + 1$		multiply scale factor	r and b
y = -2x + 4	-27	<u> </u>	
3) $y = 2x + 4$	ON OX	m=-3	
4) y = 2x + 1	J=-JX+1	6=4(1)=4	
		•	not origin
(,	=8 is dilated by a scale factor		point (1,2). Which
	he image of the line after the d	lilation?	Same equation
$y = -\frac{2}{3}x + \frac{8}{3}$	3) $y = -2x + \frac{8}{3}$	0/12	
	3	d/179-8 -	-> must put into 4-much
2) $y = -\frac{2}{3}x + 8$	4) $y = -2x + 8$	-dx -dx	> must put into yourself
3		20) 10	9=-2~18 Jam
		3)-3X	2 3/3
		3 3	
13. Line $y - 2x = 4$ is	s transformed by a dilation wit	th a scale factor of 2 cen	tered at the origin.
What is the equation			104 501
4 Xv-1	M-7	1.16	MULTING SAR
J X - 7	m=2 (9=3) h=2(4)=8	17/18	Sactor gallo
PX .9X	h=2(4)=8		joic is made
3=9XH			
14 The equation of a	line is given by the equation	2r + 2v = 6 Write an ex	quation for the image
	ation of 2 centered at (3,0).	2x + 2y = 0. Write all Co	
of the fine after a tilla	Contraction of the Contraction o		Dy=6 xyardos+
	notongiv	1 $\left(\right) \times t$	Qu=(0) have 11
	Same &	guation C	I we to get
			y by Ald
) J 14213.

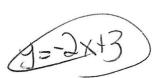
11. The equation of line h is 2x + y = 1. Line m is the image of line h after a dilation of scale

15. The equation of line l is y+2x=1. Line m is the image of line l after a dilation of 3 centered at the origin. What is the equation of line m.



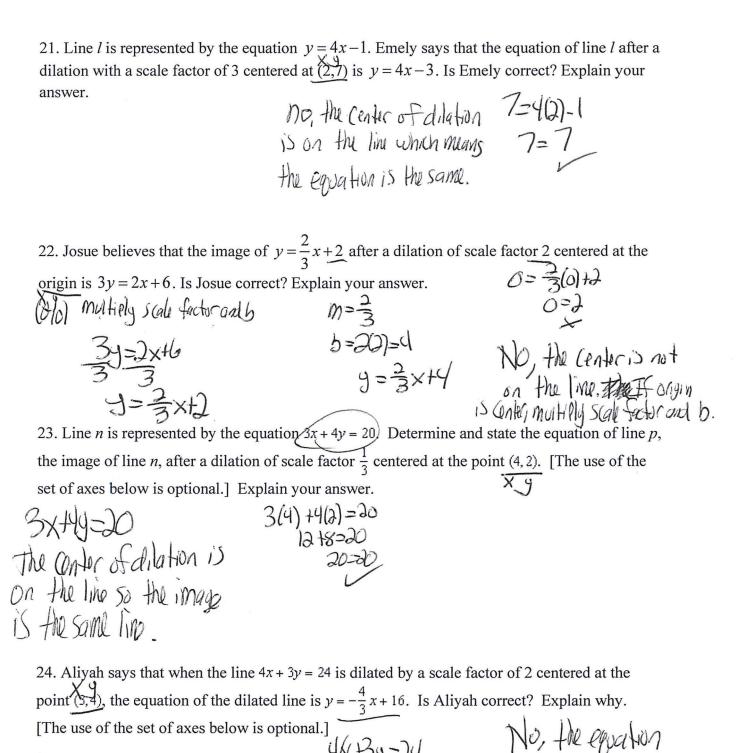
$$M = -3$$

b = 3($N = 3$



IF I don't have the scale factor and center, all I know is the image is familled and the slope must be the same.

16. The line $y = 2x - 1$ is dilated centered at (4,1). Which linear equation could be its image?
1) $y = -2x + 3$ Same 3) $y = -\frac{1}{2}x - 4$ (2) $y = 2x + 7$ 4) $y = \frac{1}{2}x$
(2) $y = 2x + 7$ 4) $y = \frac{1}{x}$
Sam slope
17. The line $y = \frac{2}{3}x + 3$ is dilated centered at the origin. Which linear equation could be its
image? 1) $2x+3y=7$ 3) $3x-2y=7$ 3) $3x-2y=7$
2)2x - 3y = 7 4) $3x + 2y = 7$
-30=2x+7/93=3x-3
18. The line $3y = -2x + 8$ is transformed by a dilation centered at the origin. Which linear
equation could be its image? Same slope $3y = -2 \times 18$
2) $2x - 3y = 5$ 3) $3x + 2y = 5$
3) $3x + 2y = 5$ 4) $3x - 2y = 5$ 3) $3y = -2x + 5$
4=3+5
19. The <u>line</u> represented by the equation $4y = 3x + 7$ is transformed by a dilation centered at the
origin. Which linear equation could represent its image?
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
$3 \times 49 = 9$ $-3 \times -3 \times 9$
-49=-3x+9/
20. The line $-3x + 4y = 8$ is transformed by a dilation centered at the origin. Which linear
equation could represent its image?
1) $y = \frac{4}{3}x + 8$ 2) $y = \frac{3}{4}x + 8$ 3) $y = -\frac{3}{4}x - 8$ 4) $y = -\frac{4}{3}x - 8$
$y = -\frac{3}{4}x + 8$ $y = -\frac{4}{3}x - 8$
19=3×18
(1, 6) .



4(3)+3(4)=24

12 412-24

Should be 4=-4x+8

because the center of

So the equation stay

dilation is on the line

the same