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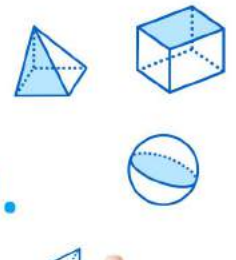

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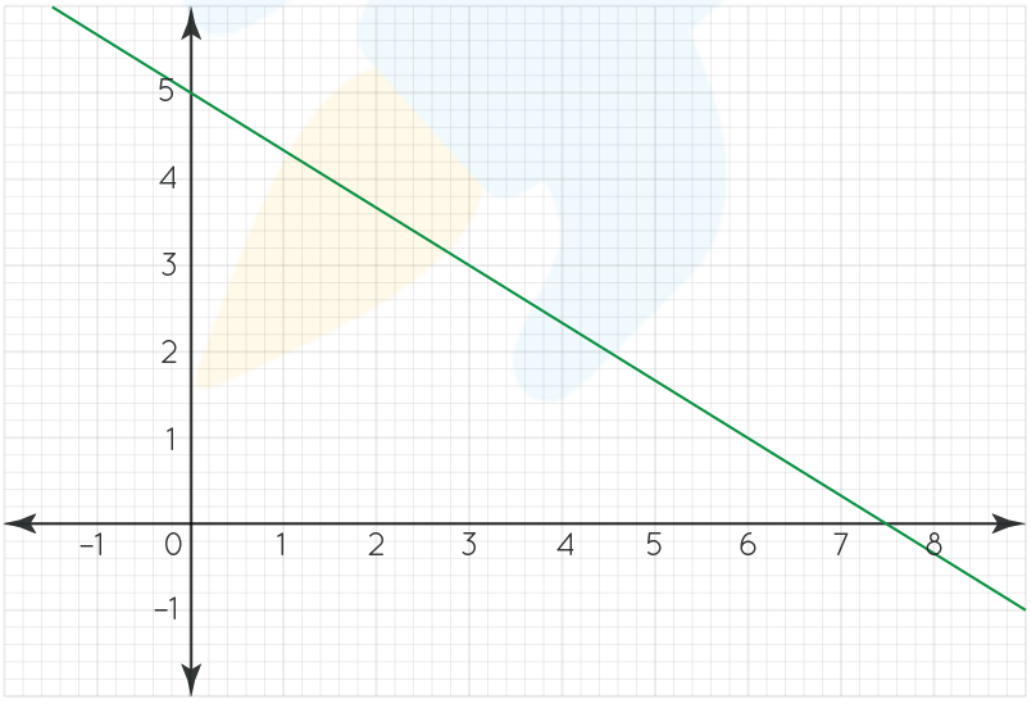
POINT SLOPE FORMULA WORKSHEETS

1. In which of the following cases, the point-slope form can be used to find the equation of a line? Select all that apply.

   a) When its slope and a point on it are known
   b) When two points on it are known
   c) When its slope and its y-intercept are known
   d) When its x and y-intercepts are known

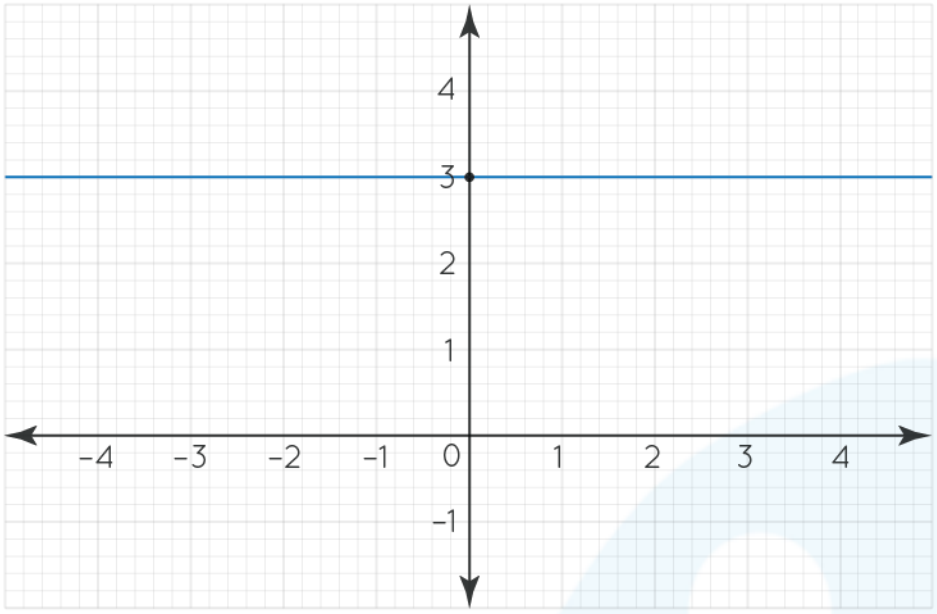
For the questions from 2-4, write the slope of the line and a point on the line.

2. $y - 5 = 3(x + 2)$
3. $y + \frac{1}{2} = -7(x - 5)$
4. 

For the questions from 5-7, write the equation of the line in the point-slope form with the given slope and a point on it. Also, express the answer in the mentioned form.

5. Slope = -6; point = (-3, 1); Point-slope form

6. Slope = $\frac{3}{2}$; point = $(4, -5)$; Slope-intercept form

7. 

; standard form

8. What is is the equation of a vertical line passing through (5, -4)? Is it possible to write it in the point-slope form?

9. Draw the graph of the following line:
$y - 3 = -2(x + 1)$

10. The weights of the object on the moon and on the earth are in a linear relationship. Write the equation of the line representing this relationship if an object weighing 102 pounds on the earth would weigh 17 pounds on the moon.

    Hint: An object weighing 0 pounds on the earth would obviously weigh 0 pounds on the moon too. Use this to find the y-intercept of the line.

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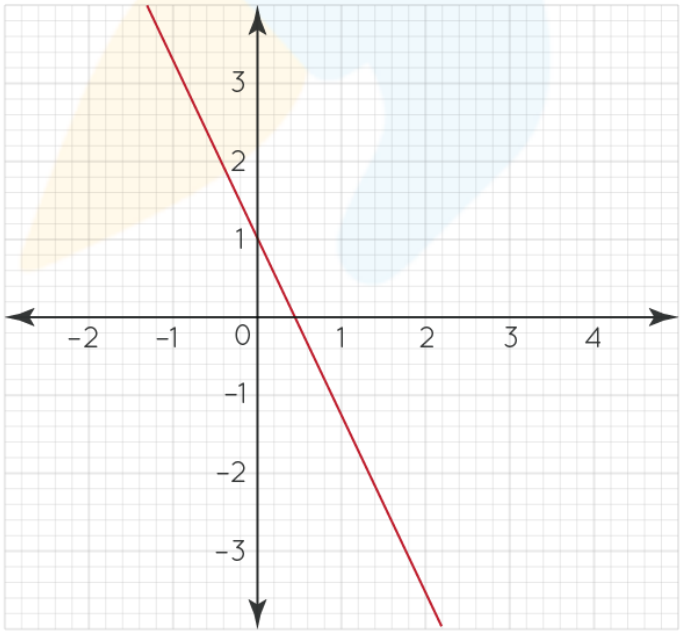
ANSWERS

1)	All options are correct
2)	Slope = 3; A point = (-2, 5)
3)	Slope = -7; A point = $\left(5, \frac{-1}{2}\right)$
4)	Slope = $-\frac{2}{3}$; A point = (6, 1) Point may vary
5)	$y - 1 = -6(x + 3)$
6)	$y = \frac{3}{2}x - 11$
7)	$y = 3$
8)	x = 5; It is not possible to write it in the point-slope form.
9)	
10)	$y = 4x$

FUN FACT

1. The slope of a line (from its graph) is found by using $\frac{\text{Rise}}{\text{Run}}$ where Rise and Run are the vertical and horizontal distances between any two points of the line respectively.
2. The slope of a horizontal line is 0.
3. The slope of a vertical line is undefined.