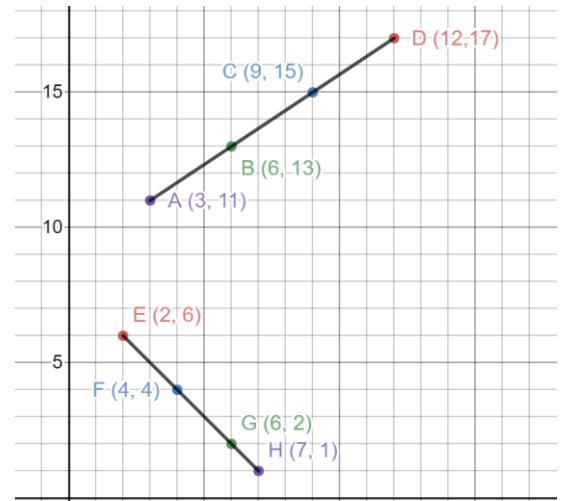## Section 2.3 – Practice Problems

1. Ryder is reviewing the schematics for his roofing project. He drew the two roof sections on the grid (See Below). He needs to check to see if the pitch of the roof is constant. Use the table below to check, what changes may be needed?

Line Segment	Rise $y_2 - y_1$	Run $x_2 - x_1$	Slope Rise /Run
AD	$17 - 11$ ⑥	$12 - 3 = 9$ ⑨	$\frac{6}{9} = \boxed{\frac{2}{3}}$
BC	$15 - 13$ ②	$9 - 6$ ③	$\boxed{\frac{2}{3}}$
EH	$1 - 6$ ⦧-5⦨	$7 - 2$ ⑤	$-\frac{5}{5} = \boxed{-1}$
FG	$2 - 4$ ⦧-2⦨	$6 - 4$ ②	$-\frac{2}{2} = \boxed{-1}$

Points shown on grid: D (12,17), C (9, 15), B (6, 13), A (3, 11), E (2, 6), F (4, 4), G (6, 2), H (7, 1)

Work Space if required:

Remember: $\dfrac{Rise}{Run} = \dfrac{y_2 - y_1}{x_2 - x_1}$

2. What is the slope of the line segment that joins the pair of points?

a) $(4, 1)$ and $(-6, -2)$

$$\frac{-2-1}{-6-4} = \frac{-3}{-10} = \boxed{\frac{3}{10}}$$

b) $(-9, 3)$ and $(5, -7)$

$$\frac{-7-3}{5-(-9)} = \frac{-10}{14} = \boxed{-\frac{5}{7}}$$

c) $(5, -2)$ and $(6, 1)$

$$\frac{1-(-2)}{6-5} = \frac{3}{1} = \boxed{3}$$

d) $(-4, -1)$ and $(6, 2)$

$$\frac{2-(-1)}{6-(-4)} = \boxed{\frac{3}{10}}$$

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3. Draw a straight line through the point $(4, 5)$ with a slope of: $\dfrac{-4}{7}$. Mark that point on the line.

   Repeat from the original point but using a slope of: $\dfrac{4}{-7}$. Do the point line up? Why does this work?
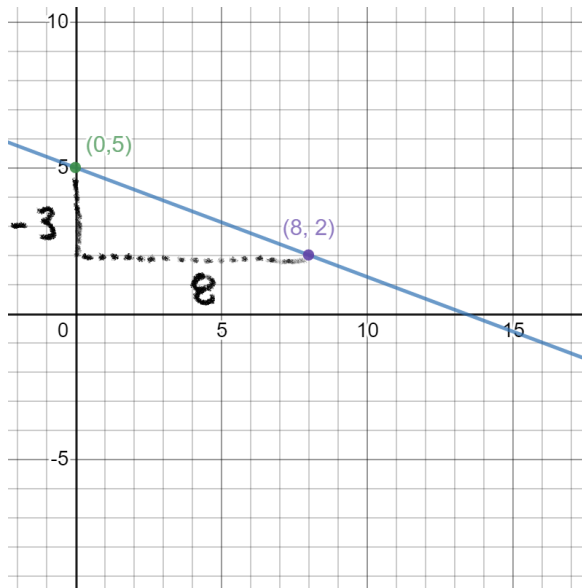
Yes they do.

Because $-\dfrac{4}{7} = \dfrac{4}{-7}$

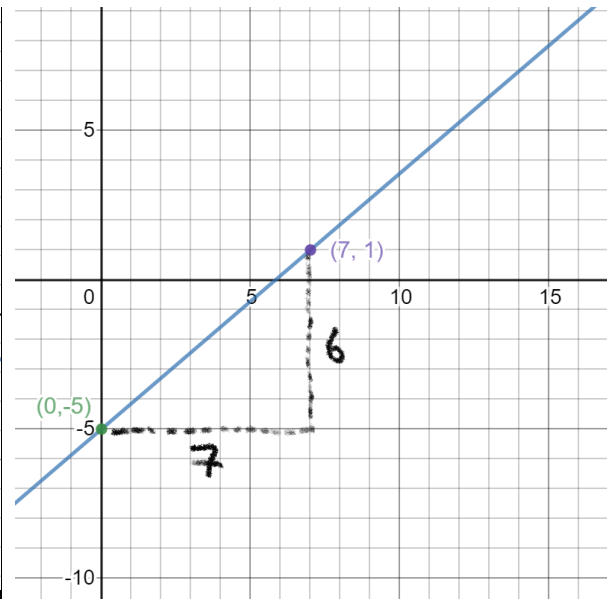all the same slope.

$\downarrow$

$-\dfrac{4}{7}$
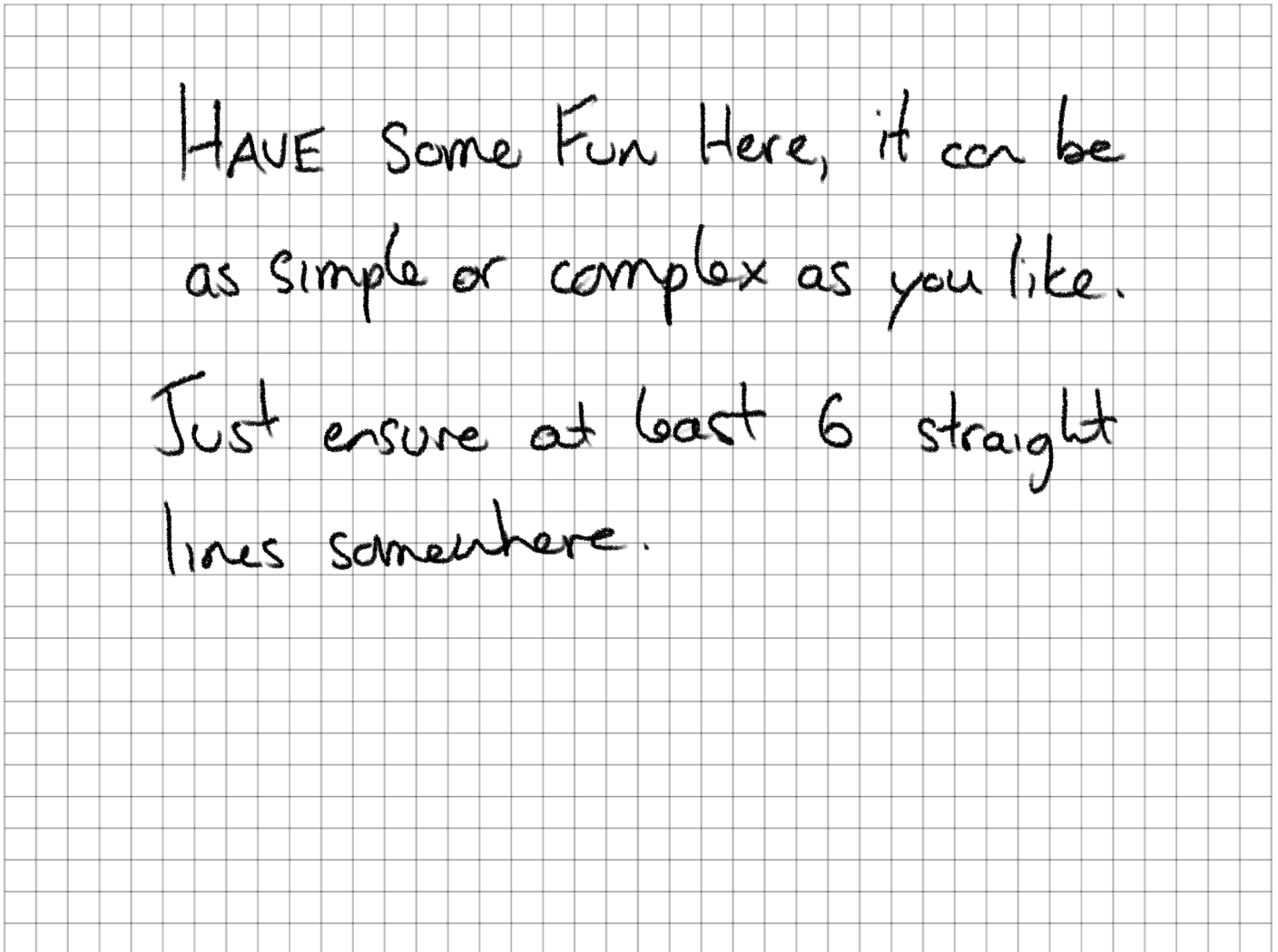
4. What is the slope of the following lines?

Slope: $-\dfrac{3}{8}$

Slope: $\dfrac{6}{7}$

2

5. Create a drawing on the grid provided. Identify at least 6 different lines and tell me their slopes.

HAVE Some Fun Here, it can be as simple or complex as you like.

Just ensure at least 6 straight lines somewhere.

Line Segment #1	Line Segment #2	Line Segment #3
Slope:	Slope:	Slope:
Line Segment #4	Line Segment #5	Line Segment #6
Slope:	Slope:	Slope:

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