

Math 1

- Quiz tomorrow
- Project will count as two tests.
 1. Paper portion
 2. Presentation

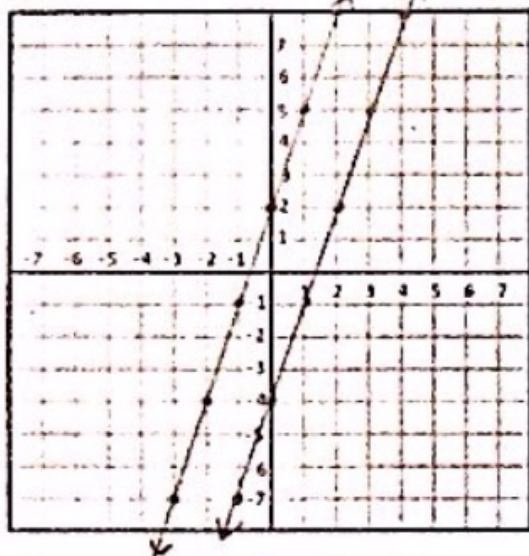
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Quick Review

Graph the following functions in the coordinate plane:

a. $f(x) = 3x + 2$ and $g(x) = 3x - 4$



What are the slopes of both lines?

$3 + 3$

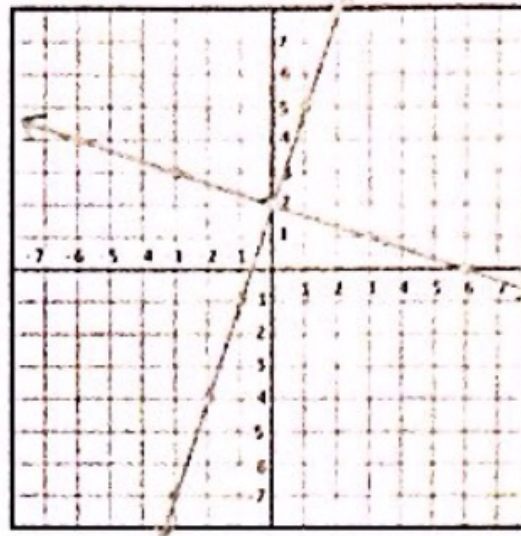
What special relationship do the lines have?

Parallel

What can you conclude about the relationship of the lines as it relates to slope?

Never touch.

b. $f(x) = 3x + 2$ and $h(x) = -\frac{1}{3}x + 2$



What are the slopes of both lines?

$3 + -\frac{1}{3}$

What special relationship do the lines have?

Perpendicular

What can you conclude about the relationship of the lines as it relates to slope?

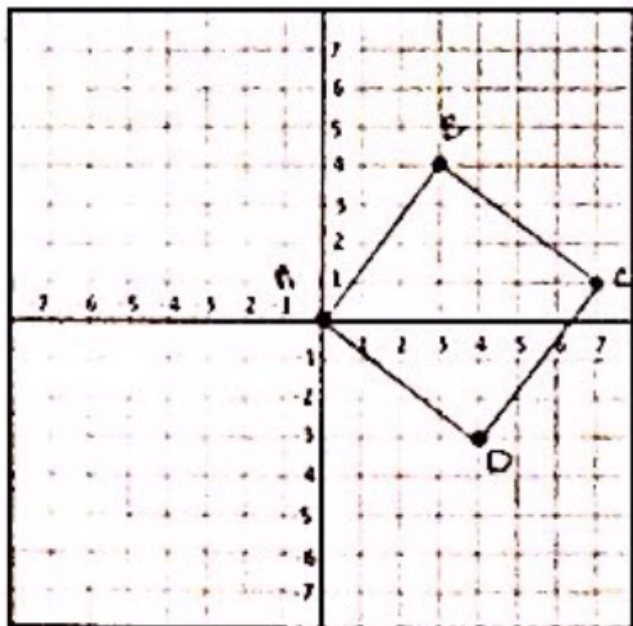
make 90°



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2. Graph the following line segments in the coordinate plane:

A (0,0), B (3,4), C (7,1), D (4,-3)



What are the slopes of line segments \overline{AB} and \overline{DC} ?

$$\frac{4}{3}$$

What are the lengths of \overline{AB} and \overline{DC} ?

$$3^2 + 4^2 = C^2$$

$$9 + 16 = C^2$$

$$25 = C^2$$

$$C = 5$$

What can you conclude about these lines?

Perpendicular

What can you conclude about slope and distance?

Opp sides parallel, distance same

What is the shape of ABCD? How do you know?

Square

1. opp sides \parallel
2. all sides \cong

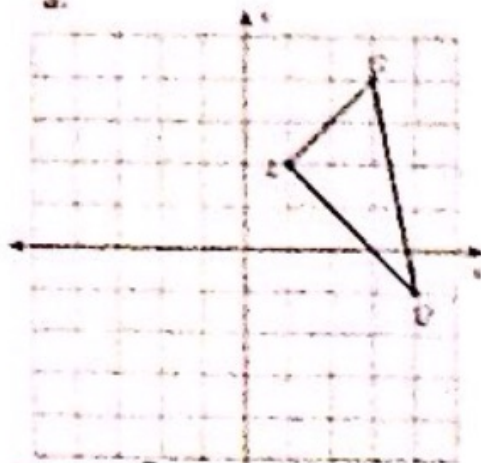
3. adjacent sides are \perp

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3. Can any of the triangles below, be classified as right triangles? Be sure to write down the slopes of the line segments.

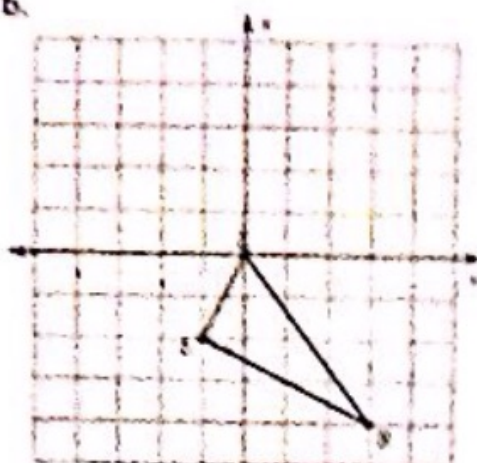
a.



$$\begin{aligned} \overline{GL} &= \frac{2-2}{2-1} = \frac{0}{1} \\ \overline{LO} &= \frac{-3-2}{2-2} = \frac{-5}{0} \end{aligned}$$

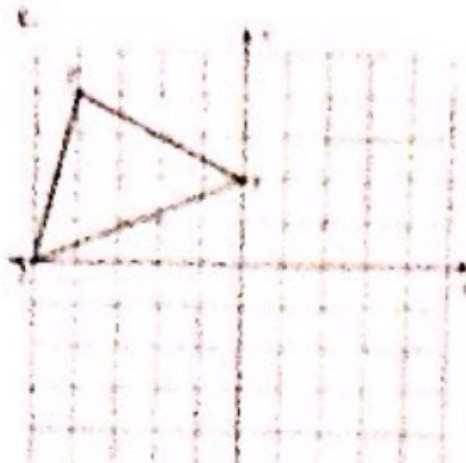
right

b.



$$\begin{aligned} \overline{EI} &= \frac{-4-(-2)}{-1-(-1)} = \frac{-2}{0} \\ \overline{EB} &= \frac{-5-(-2)}{1-(-1)} = \frac{-3}{2} \end{aligned}$$

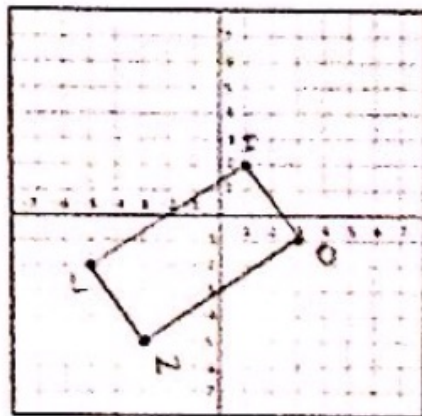
right



$$\begin{aligned} \overline{TY} &= \frac{2-2}{1-(-1)} = \frac{0}{2} \\ \overline{TF} &= \frac{-4-2}{1-(-1)} = \frac{-6}{2} \end{aligned}$$

not right

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$$4^2 + 6^2 = C^2$$

$$16 + 36 = C^2$$

$$52 = C^2$$

$$3^2 + 2^2 = C^2$$

$$9 + 4 = C^2$$

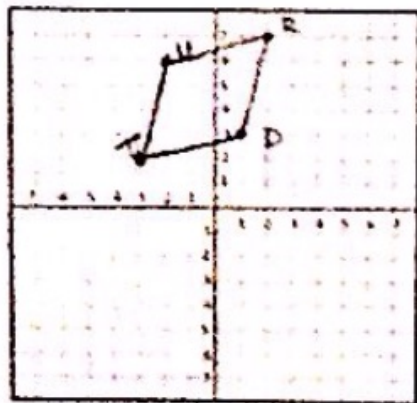
$$13 = C^2$$

	length	slope
LI	$\sqrt{52} = 7.2$	$\frac{4}{0} = \text{undefined}$
IO	$\sqrt{13} = 3.6$	$\frac{2-2}{2-(-2)} = \frac{0}{4} = 0$
ON	$\sqrt{52} = 7.2$	$\frac{2-2}{2-(-2)} = \frac{0}{4} = 0$
NL	$\sqrt{13} = 3.6$	$\frac{2-(-2)}{2-(-2)} = \frac{4}{4} = 1$

Rectangle

1. opp sides \parallel
2. opp sides \cong
3. adjacent sides \perp

5. Classify the quadrilateral TURD with vertices $T(-3, 2)$, $U(-2, 6)$, $R(2, 7)$, $D(1, 1)$



$$1^2 + 4^2 = C^2$$

$$1 + 16 = C^2$$

$$17 = C^2$$

	length	slope
TU	$\sqrt{17} = 4.1$	$\frac{4}{1}$
UR	$\sqrt{17} = 4.1$	$\frac{1}{4}$
RD	$\sqrt{17} = 4.1$	$-\frac{4}{1} = -4$
DT	$\sqrt{17} = 4.1$	$-\frac{1}{4} = -\frac{1}{4}$

Rhombus

1. opp sides \parallel
2. opp sides \cong



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