


EOC Treat 1,6, and 7

Parallel and
Perpendicular Lines

Check Homework

Link to answer key

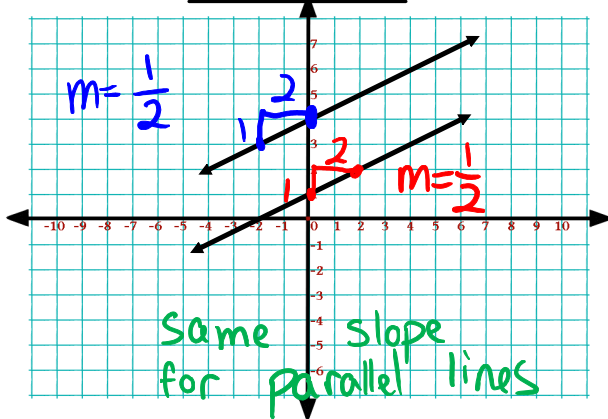
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Quizlet Cross Sections

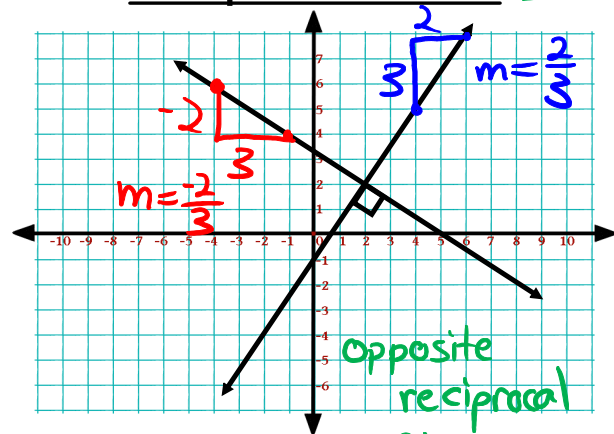
Determining Parallel and Perpendicular

Parallel and Perpendicular Lines

Parallel \parallel



Perpendicular \perp



Remember:

$$\text{slope} = \frac{\text{Rise}}{\text{Run}}$$

Identify slope of the following lines and give two new equations
One parallel and one perpendicular through the given point.

1. $y = 3x + 5$ through $(3, 4)$

|| same slope

$$y = 3x + b$$

$$4 = 3(3) + b$$

$$4 = 9 + b$$

$$-5 = b$$

$$y = 3x - 5$$

⊥ opp. rec. slope

$$y = -\frac{1}{3}x + b$$

$$4 = -\frac{1}{3}(3) + b$$

$$4 = -1 + b$$

$$5 = b$$

$$y = -\frac{1}{3}x + 5$$

2. $y = \frac{1}{4}(x+8)$ through $(-4, 2)$ Next in form $y = mx + b$

$$y = \frac{1}{4}(x+8)$$

$$y = \frac{1}{4}x + 2$$

1. Find slope
2. $y = mx + b$
3. Sub. in x and y
4. solve for b .
5. sub. 'b' to get equation

|| same slope

$$y = \frac{1}{4}x + b$$

$$2 = \frac{1}{4}(-4) + b$$

$$2 = -1 + b$$

$$3 = b$$

$$y = \frac{1}{4}x + 3$$

⊥ opp recip. slope

$$y = -4x + b$$

$$2 = -4(-4) + b$$

$$2 = 16 + b$$

$$-14 = b$$

$$y = -4x - 14$$

Identify slope of the following lines and give two new equations
One parallel and one perpendicular through the given point.

3. $3y = 6(3x + 5)$ through $(18, -5)$ need in $y = mx + b$

$$3y = 18x + 30$$

$$y = 6x + 10 \checkmark$$

|| same slope

$$y = 6x + b$$

$$-5 = 6(18) + b$$

$$-5 = 108 + b$$

$$-113 = b$$

$$y = 6x - 113$$

⊥ opp. rec. slopes

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

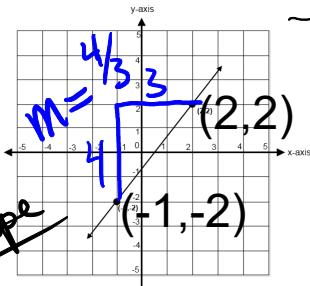
$$-5 = -\frac{1}{6}(18) + b$$

$$-5 = -3 + b$$

$$-2 = b$$

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

4.



Find slope

through $(-4, 1)$

|| same slope

$$y = \frac{4}{3}x + b$$

$$1 = \frac{4}{3}(-4) + b$$

$$1 = -\frac{16}{3} + b$$

$$\frac{19}{3} = b$$

$$y = \frac{4}{3}x + \frac{19}{3}$$

⊥

$$y = -\frac{3}{4}x + b$$

$$1 = -\frac{3}{4}(-4) + b$$

$$1 = 3 + b$$

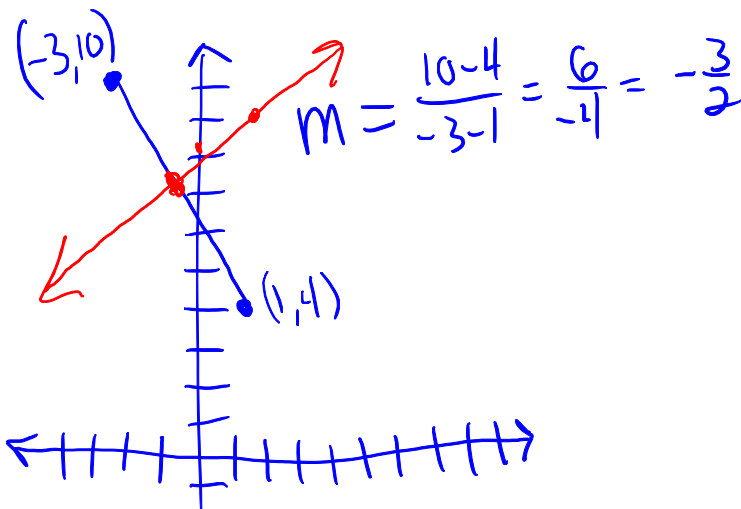
$$-2 = b$$

$$y = -\frac{3}{4}x - 2$$

Extension Question #1

A square has perpendicular diagonals.

If one diagonal of a square is formed by the points $(1,4)$ and $(-3, 10)$. What is the equation of the line containing the other diagonal if they intersect at $(-2,7)$?



$$y = \frac{2}{3}x + b$$
$$7 = \frac{2}{3}(-2) + b$$