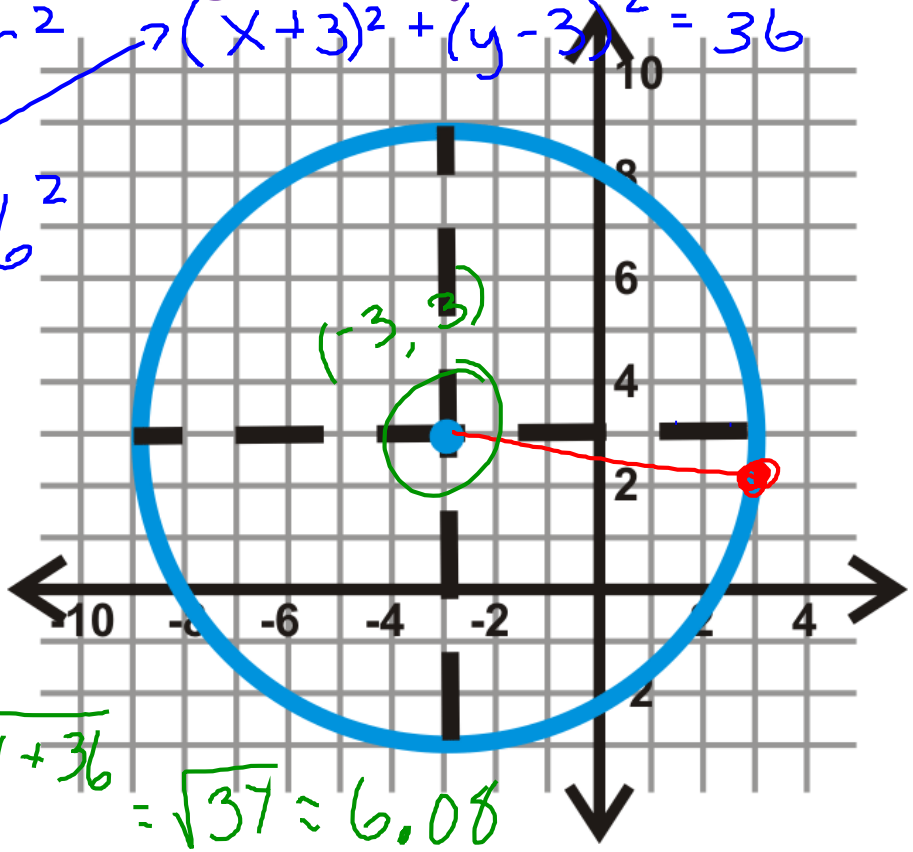
Tuesday, February 26, 2019

- Warm-up
  - Write the equation for the given circle
  - Is the point (3,2) in or out of the circle?
    - show your process

$(x-h)^2+(y-k)^2=r^2 \rightarrow (x+3)^2+(y-3)^2=36$

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



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distance formula:

$\sqrt{(y_2-y_1)^2+(x_2-x_1)^2}$

$\sqrt{(3-2)^2+(-3-3)^2} = \sqrt{1^2+(-6)^2} = \sqrt{1+36}$

$= \sqrt{37} \approx 6.08$

- Go over Exit Slips
- Go over Quizzes
- Review

Objectives

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What is the slope of the line in the xy-plane that passes through the points $\left(-\frac{5}{2}, 1\right)$ and $\left(-\frac{1}{2}, 4\right)$?

$m = \frac{y_2 - y_1}{x_2 - x_1}$ (x_1, y_1; x_2, y_2)

$= \frac{4 - 1}{-\frac{1}{2} - \left(-\frac{5}{2}\right)}$

A) -1

B) $-\frac{2}{3}$

C) 1

D) $\frac{3}{2}$

Exit Slip

- Show your process
- Choose an answer
- What made this problem more difficult than a typical slope problem?
- How did you overcome those difficulties?

$\frac{3}{\frac{4}{2}}$

$\frac{3}{2}$

Parallel? new slope? $\frac{3}{2}$

Perpendicular: new slope? $-\frac{2}{3}$

Line ℓ is graphed in the xy-plane below.

If line ℓ is translated up 5 units and right 7 units, then what is the slope of the new line?

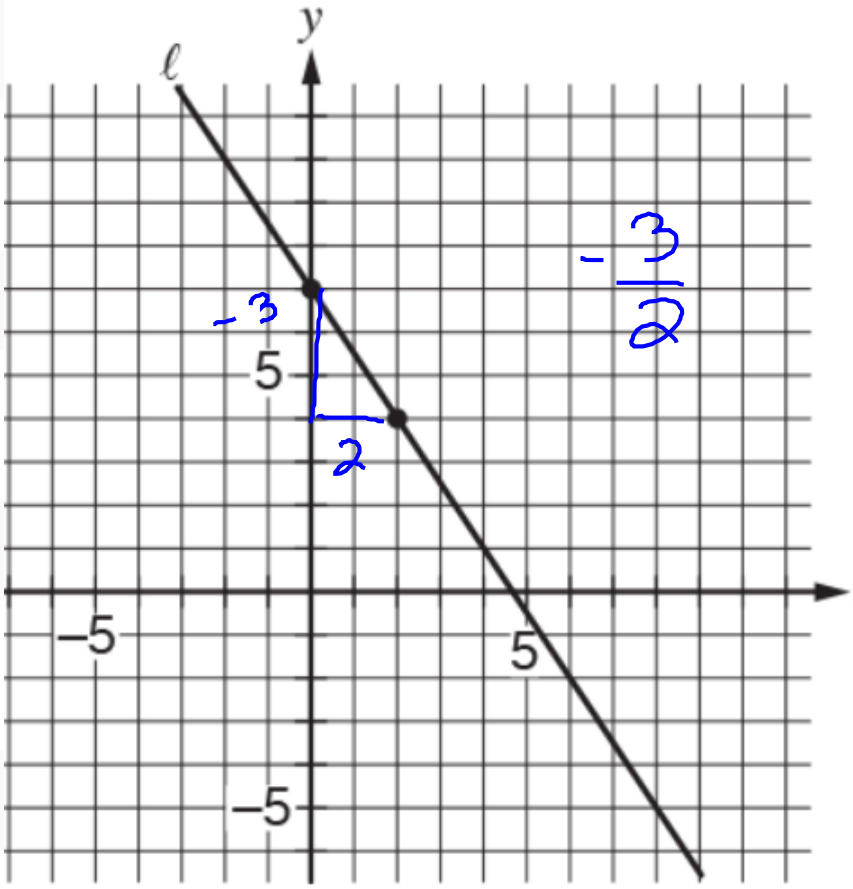
Select an Answer

(A) $-\frac{2}{5}$

(B) $-\frac{3}{2}$

(C) $-\frac{8}{9}$

(D) $-\frac{11}{14}$



Exit Slip

- Choose an answer
- Explain your reasoning.
- Choose an incorrect answer, explain the mistake someone who chose that one made.

14. A student is drawing the human skeleton to scale for a school assignment. The assignment permits the student to omit all bones under a certain size because they would be too small to draw. The longest bone in the human body is the femur, or thighbone, with an average length of 19.9 inches. The tenth longest bone is the sternum, or breastbone, with an average length of 6.7 inches.

≈20

20 ÷ 8

If the scale factor of the drawing is one-eighth, about how long in inches should the student draw the femur?

8 x 2 = 16

20

8 x 3 = 24

A. 2

B. 2.5

C. 2.8

D. 3

Exit Slip

- Choose an answer
- Explain your reasoning.
- Choose an incorrect answer, explain the mistake someone who chose that one made.

Quiz

Pg205

Check Your Understanding

Consider the following matrix representation of $\triangle ABC$.

$$\triangle ABC = \begin{bmatrix} -1 & 4 & 3 \\ 2 & -3 & 5 \end{bmatrix}$$

a. On separate grids, sketch and label $\triangle ABC$ and its image under each of the following transformations.

i. Reflection across the y-axis

ii. Translation with horizontal component -3 and vertical component 2

iii. Reflection across the line $y = x$

iv. Rotation of 180° about the origin

v. Rotation of 90° counterclockwise about the origin

b. For one of the transformations in Part a, use coordinates to show that $\triangle ABC$ and its transformed image are congruent.

Review

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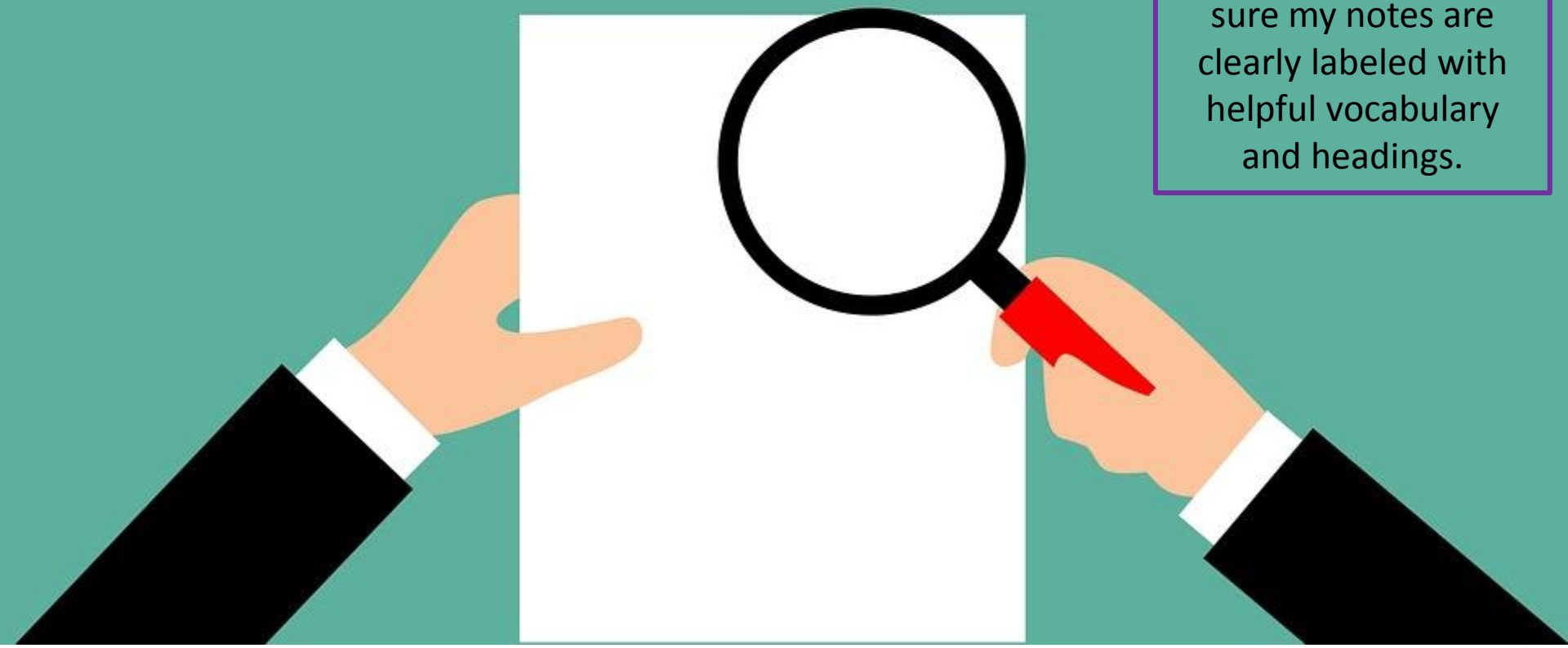

Homework Questions

1) $(x+3)(x+5)$

$x^2+5x+3x+15$

$x^2+8x+15$

13) $(n+2)(n^2+5n-3)$

$n^3+5n^2-3n+2n^2+10n-6$

n^3+7n^2+7n-6

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