Study Guide for the final: 6 of 7

This document may be collected and graded. Do your best work and do all problems.

Name _____ Points received: _____/10

Objective #1: Solve quadratics using square roots

Directions: Show your work to receive credit. See your class notes if you forget what work to complete.

For each question:

- Get the variable x^2 on one side of the equation, the number on the other
- Use multiplication or division to isolate the x^2 (get rid of the coefficient)
- Find the square root of both sides, remembering that 2 answers are likely.
- Keep in mind that an equation could have no solutions, 1 solution, or 2 solutions

1. $x^2 - 4 = 0$

$\sqrt{x^2} = \sqrt{4}$

$x = \pm 2$

2. $3x^2 - 48 = 0$

$3x^2 = 48$

$x^2 = 16$

$x = \pm 4$

3. $\frac{1}{2}x^2 = 4\frac{1}{2}$

$x^2 = 9$

$x = \pm 3$

4. $3x^2 + 40 = 0$

$3x^2 = -40$

$x^2 = -\frac{40}{3}$

No solution

5. $6x^2 = 0$

$x = 0$

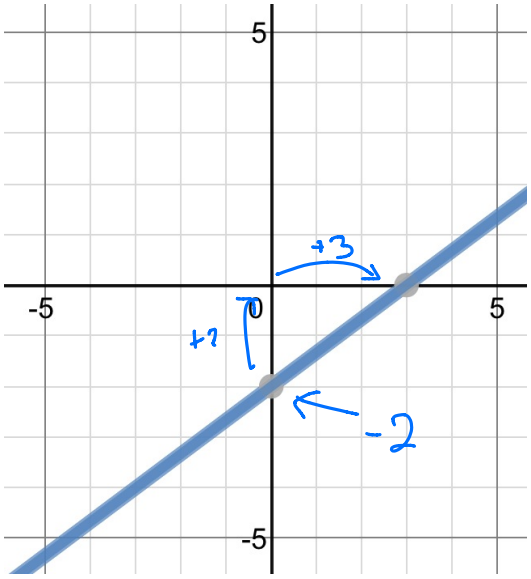
6. Create an equation that cannot be solved with square roots.

$2x^2 + x = 0$

NOTE You can't solve an equation with square roots if there is a B-value.

Review portion for the final

7. What is the equation of the line below?



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

8. Find the slope through (8, 7) and (4, -5)

$\frac{-5-7}{4-8} = \frac{-12}{-4} = 3$

9. Simplify $\sqrt{108}$ without using decimals

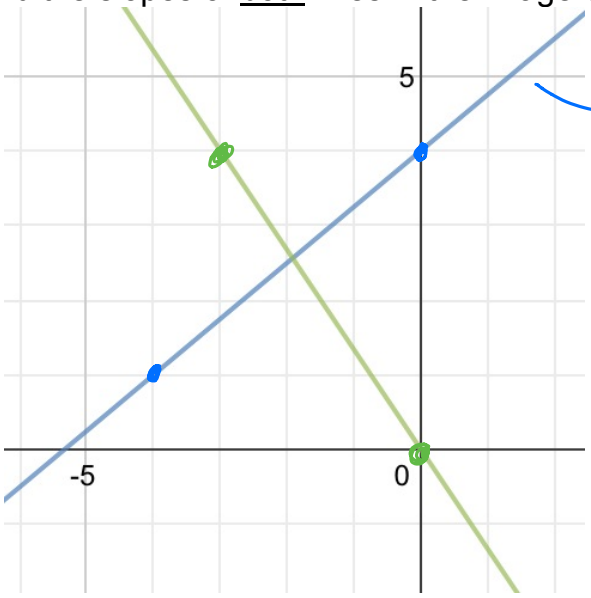
$\sqrt{36 \cdot 3}$

$\sqrt{36} \cdot \sqrt{3} = 6\sqrt{3}$

10. Evaluate $\frac{m^{10}}{m^6}$ if $m = 5$

$m^4 = (5)^4 = 625$

11. Find the slopes of <u>both</u> lines in the image below.



slope $= \frac{3}{4}$

slope $= -\frac{4}{3}$