Questions on Solving Quadratic Equations WKS?

Module 3 Review Day

Today we are working on our Module 3 Study Guide to get ready for our test Thursday.

Sep 13-2:10 PM

① $9v^2 = 6v + 17$

$-6v \quad -6v \quad -17$

-17

$9v^2 - 6v - 17 = 0$

$a = 9$

$b = -6$

$c = -17$

$$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4 \cdot 9 \cdot -17}}{2 \cdot 9}$$

$$= \frac{6 \pm \sqrt{648}}{18} = \frac{6 \pm \sqrt{9} \cdot \sqrt{9} \cdot \sqrt{4} \cdot \sqrt{2}}{18}$$

$$= \frac{6 \pm 18\sqrt{2}}{18} = \frac{6}{18} \pm \frac{18\sqrt{2}}{18} = \frac{1}{3} \pm \sqrt{2}$$

(9) $5x^2 - 10 = 180$

$+10 \quad +10$

$5x^2 = 190$

$\frac{5x^2}{5} = \frac{190}{5}$

$\sqrt{x^2} = \sqrt{38}$

$x = \pm\sqrt{38}$

OR

$x = -\sqrt{38}, \sqrt{38}$

√ roots if bx is missing (b=0)

38

2 19

22) $n^2 - 3 = -2n$

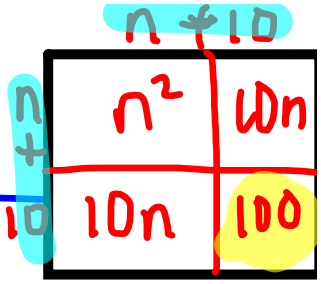
$+2n \quad +2n$

$n^2 + 2n - 3 = 0$

$(n+3)(n-1) = 0$

$n = -3, 1$

25] $n^2+20n+80=5$
$-5 \quad -5$
$n^2+20n+75=0$
$+25 \quad +25$ *add 25
$n^2+20n+100=25$
$(n+10)(n+10)=25$
$\sqrt{(n+10)^2} = \pm\sqrt{25}$
$n+10=\pm 5$
$-10 \quad -10$
$n=-10\pm 5 \longrightarrow -10+5 \text{ & } -10-5$
$n=-5,-15$



SECONDARY MATH II
Module 3 Study Guide: Quadratic Equations

Directions: Show ALL work.

Simplify the following expressions using exponent rules and relationships. Write your answers in exponential form with no negative exponents in your answer.

1. $\frac{5^8}{5^2}$
2. $x^4 \cdot x^6$
3. $\frac{7^{-2}y^2}{7^{-8}y}$

Simplify each radical below, using $i = \sqrt{-1}$ or $i^2 = -1$ if necessary.

4. $\sqrt{18}$
5. $\sqrt[5]{32}$
6. $\sqrt{-45}$

Simplify the following imaginary/complex numbers.

7. $(2i)(5i)$
8. $2i^2$
9. $(3 + 2i) + (4 - i)$

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Simplify the following radicals.

10. $3\sqrt{2}+4\sqrt{2}-\sqrt{2}$

11. $\sqrt{27}-2\sqrt{3}+2\sqrt{6}$

12. $(-4\sqrt{5})\cdot(2\sqrt{3})$

Solve the following quadratic equations for the x-intercepts (also called roots, zeroes, or solutions) by factoring, completing the square, taking square roots, or using the quadratic formula $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$. Simplify radicals as much as possible and use $i=\sqrt{-1}$ or $i^2=-1$ if necessary. Round any decimals to two decimal places.

13. $x^2-8x=-12$

14. $n^2-24=2n$

15. $5x^2-2=318$

16. $7n^2-6=-90$

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17. $11x^2 + 4x = -4$

18. $3n^2 = 12n + 36$

19. $4a^2 - 8a - 33 = -4$

20. $n^2 + 20n - 105 = -9$

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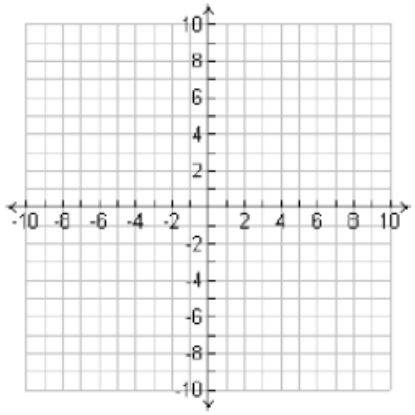
21. Graph $f(x) = (x+2)^2 - 2$

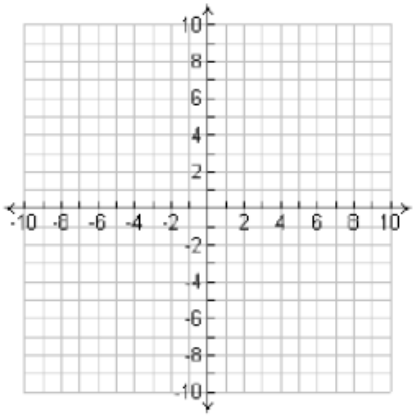


22. For #24, write the quadratic in the following forms:

Standard Form: _____

Factored Form: _____

23. Graph $f(x) = x^2 + 3x + 4$

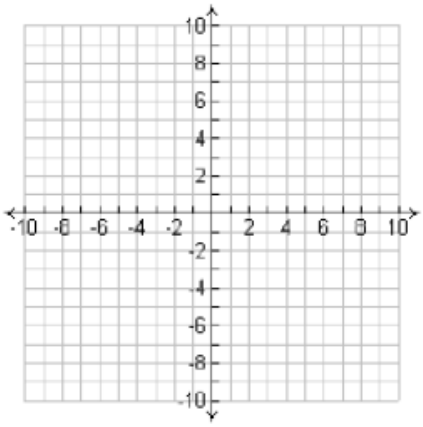


24. For #26, write the quadratic in the following forms:

Vertex Form: _____

Factored Form: _____

25. Graph $f(x) = (x-1)(x-5)$



26. For #28, write the quadratic in the following forms:

Standard Form: _____

Vertex Form: _____