B1 algebra 2 12/10

Definitions:
- factors
- roots
- axis of symmetry
- maximum
- minimum

Example of the quiz - ~~standard~~ intercept form

$f(x) = 3(x-1)(x+2)$

$-1 \quad -1+2$

$1, -2$

$= 3\left(-\frac{1}{2}-1\right)\left(-\frac{1}{2}+2\right)$

$3\left(-1\frac{1}{2}\right)\left(1\frac{1}{2}\right)$

$3(-1.5)(1.5) = -6.75$

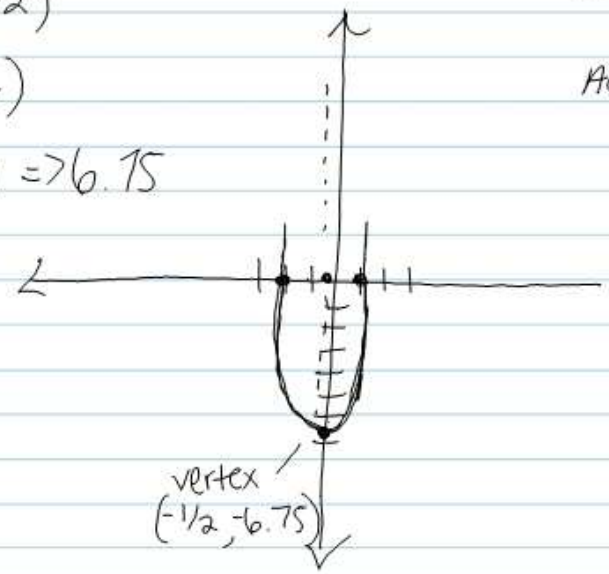
$(-1-1)\ (-1+2)$

$-2 \quad 1$

find AOS
find vertex
it is min or max
5 points to show
curv

GRAPH

AOS: $x = -1/$



Vertex → Standard

$y = 2(x-3)^2 + 5$

$2(x-3)(x-3)+5$

$(x^2-3x-3x+9)$

$x^2-6x+9+5$

$2x^2-12x+18+5$

$f(x)\ 2x^2-12x+23$

Radical Symbol
square root

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

$4^2 = 16 \rightarrow \sqrt{16} = 4$

$\sqrt{36} = \sqrt{4} \cdot \sqrt{9} \Rightarrow 6$

$\sqrt{8} = \sqrt{4} \cdot \sqrt{2} \Rightarrow 2\sqrt{2}$

$\sqrt{\frac{25}{4}} = \frac{\sqrt{25}}{4} \Rightarrow \frac{5}{2}$

$\sqrt{\frac{a}{b}} \Rightarrow \frac{\sqrt{a}}{b}$

$\sqrt{27}$

$\sqrt{9} \cdot \sqrt{3}$

$\downarrow$

$3\sqrt{3}$

Solving Quadratic Equations using Square Roots - 12/20

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

$2 = \sqrt{4}$

$2 = 2$

$2x^2 = 16 = 0$

$+16 \quad +16$

$\frac{2x^2}{2} = \frac{16}{2} \quad = \sqrt{x^2} = \sqrt{8}$

$x = \pm\sqrt{8}$

$\pm\sqrt{4}\sqrt{2}$

$x = \pm 2\sqrt{2}$

$\sqrt{2} = 1.44$

$2\sqrt{2} = \pm 2.8$

$+2.82$

-2.82

AOS ⇒ x

(0, -

Product property:

$\sqrt{ab} \Rightarrow \sqrt{a}\ \sqrt{b}$

$\sqrt{12}$

$\sqrt{24}$ $\quad 2\sqrt{6}$

$\sqrt{6}\ \sqrt{4}$

$\sqrt{2}\ \sqrt{3}\ \ 2$

$2\sqrt{6}$ $\quad \sqrt{12}\ \sqrt{2}$

$2\sqrt{4}\ \sqrt{3}\ \sqrt{2}$

$\sqrt{24}\ \sqrt{1}$

$2\sqrt{6}$ $\quad \sqrt{8}\ \sqrt{3}$

$2\sqrt{4}\ \sqrt{2}\ \sqrt{3}$

$\sqrt{2}\ \sqrt{3}\ \sqrt{2}$

$\sqrt{6} \cdot \sqrt{2}$

$\sqrt{4} \cdot \sqrt{3}$

$\sqrt{12} \cdot \sqrt{1}$

$2\sqrt{3}$

Quotient property

$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

$\sqrt{\frac{25}{4}} = \frac{\sqrt{25}}{\sqrt{4}} = \frac{5}{2}$

$\sqrt{\frac{24}{4}} = \frac{\sqrt{24}}{\sqrt{4}} = \frac{\sqrt{4}\sqrt{6}}{\sqrt{4}}$

$\frac{2\sqrt{6}}{2} = \sqrt{6}$

[redacted]

$\sqrt{3} + \sqrt{3} = 2\sqrt{3}$
$x + x = 2x$

$\sqrt{3} + \sqrt{5}$ } different radicals
$x + y$ } not "like terms"

$2x + 3y + x + y + 4x + y =$

$7x + 5y$

$2\sqrt{2} + 3\sqrt{3} + \sqrt{2} + \sqrt{3} + 4\sqrt{2} + \sqrt{3}$

$7\sqrt{2} + 5\sqrt{3}$

$x^2 + 4 = 40$
$-4 \quad -4$

$x^2 = 36$

$\sqrt{x^2} = \pm\sqrt{36}$

$x = +6$
$\quad -6$

$4b^2 + 2 = 326$
$\quad -2 \quad -2$

$\frac{4b^2}{4} = \frac{324}{4}$

$b^2 = 81$

$(y+3)^2 + 9 = 0$
$\quad +9 \quad +9$

$\sqrt{(y+3)^2} = \sqrt{9}$
$y + 3 = \pm 3$
$\quad -3 \quad -3$

$y = -3 \pm \sqrt{9}$
$y = -3 \pm 3$
$y = -3 + 3 \rightarrow y = 0$
$y = -3 - 3 \quad y = -6$