Math 100   Chapter 8 Flashcards

Below is a list of flashcards for Chapter 8 - feel free to make more of your own! Here are some suggestions for using them:

- Put the performance criteria for each one in its upper left corner, so you know which performance criterion it is.

- After making the cards, shuffle them well to form a practice deck.

- When checking the answers, focus on the principle(s) involved, not just the answer.

- When you get an item correct, remove its card from the practice deck, to focus on the ones you do not get correct.

- Reinsert cards for which you got the correct answer into the practice deck some time after you got them correct, to make sure you stay refreshed on them.

8(a)
- **Front:** If $f(x) = x^2 + 5x + 9$, to find $f(-2)$ we start with
- **Back:** $f(-2) = (-2)^2 + 5(-2) + 9$

8(a)
- **Front:** If $f(x) = x^2 - 3x$, to find $f(a+1)$ we start with
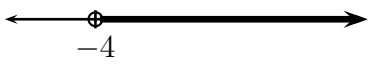- **Back:** $f(a+1) = (a+1)^2 - 3(a+1)$

8(a)
- **Front:** The next step in simplifying $(a+1)^2 - 3(a+1)$ is
- **Back:** $(a+1)(a+1) - 3a - 3$

8(b)
- **Front:** If $f(x) = x^2 + 5x + 9$, to find all x for which $f(x) = 5$ we start with
- **Back:** $5 = x^2 + 5x + 9$

8(b)
- **Front:** To solve $5 = x^2 + 5x + 9$ we
- **Back:** get zero on one side and factor

8(c)
- **Front:** If $f(x) = x^2 - 3x$ and $g(x) = 2x + 1$, find $g[f(5)]$
- **Back:** $g[f(5)] = g[5^2 - 3(5)] = g(10) = 2(10) + 1 = 21$

8(c)
- **Front:** If $f(x) = x^2 - 3x$ and $g(x) = 2x + 1$, we find $(f \circ g)(x)$ by
- **Back:** $(f \circ g)(x) = f[g(x)] = f(2x+1) = (2x+1)^2 - 3(2x+1)$

8(d)
- **Front:** The interval notation for the set -4 is

- **Back:** $(-4, \infty)$

8(d) • **Front:** The interval notation for the set $\;$ $\;$ is

$\qquad$ • **Back:** $[-2, 3)$

8(e) • **Front:** The domain of $\;f(x) = \sqrt{x + 1}\;$ is
$\qquad$ • **Back:** $[-1, \infty)\;$ or $\;x \geq -1$

8(e) • **Front:** The domain of $\;g(x) = \dfrac{1}{x^2 - 4}\;$ is

$\qquad$ • **Back:** $x \neq -2, 2$

8(e) • **Front:** The domain of $\;y = \dfrac{1}{\sqrt{3 - x}}\;$ is

$\qquad$ • **Back:** $(-\infty, 3)\;$ or $\;x < 3$

8(g) • **Front:** The x-coordinate of the vertex of $\;y = 3x^2 - 6x + 1\;$ is

$\qquad$ • **Back:** $x = \dfrac{-b}{2a} = \dfrac{-(-6)}{2(3)} = \dfrac{6}{6} = 1$

8(g) • **Front:** If the x-coordinate of the vertex of $\;y = 3x^2 - 6x + 1\;$ is $\;1,\;$ then the y-coordinate of the vertex is
$\qquad$ • **Back:** $\;y = (1)^2 - 6(1) + 1 = -6$

8(g) • **Front:** The parabola with equation $\;y = 3x^2 - 6x + 1\;$ opens
$\qquad$ • **Back:** up, because $\;3\;$ (the coefficient of $\;x^2$) is positive. If it was negative the parabola would open down.