

The Bad

Perform the indicated operation and simplify: $\frac{2x+3}{x-\sqrt{2}} - \frac{x^2+1}{3}$.

$$\frac{2x+3}{x-\sqrt{2}} - \frac{x^2+1}{3} = \frac{2x+3}{x-\sqrt{2}} - \frac{x^2+1}{3}.$$

$$\frac{2x+3}{x-\sqrt{2}} - \frac{x^2+1}{3} = \frac{-x^3 + (\sqrt{2})x^2 + 5x + (9 + \sqrt{2})}{3(x-\sqrt{2})}.$$

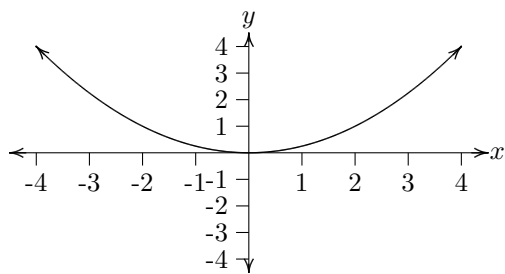
$$\frac{2x+3}{x-\sqrt{2}} - \frac{x^2+1}{3} = \frac{-x^3 + (\sqrt{2})x^2 + 5x + (9 + \sqrt{2})}{3x - 3\sqrt{2}}.$$

Comments:

- What is going on here? The first line is unnecessary! Are these steps connected? Where are the connecting words?
- Where are the steps leading to the middle line? With no details, why should we believe it?
- Was it necessary to multiply out the denominator in the third line?
- While the statements are all true, the redundancy of the material on the left side of the equal signs is distracting at best.

See: **“The Good.”**

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



While the graph is technically correct,

- The arrows on the negative ends of the axes are distracting and unnecessary.
- The arrows on the ends of the function curve are distracting and unnecessary.
- Too much labeling of the tick marks: Our eyes are drawn to them rather than the graph of the function.
- The scales on the x - and y -axes do not agree: In fact, they are not even close!
- The negative y -axis is much too long since the functional values are all positive.
- The graph is MUCH too small!
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See **“The Good.”**