

Day 3 → Part 1

① $\sqrt{24x^2y^5z^3}$

$2xy^2z\sqrt{6yz}$

24
6⁴

② $\sqrt{72a^7bc^3}$

$6a^3c\sqrt{2bc}$

72
^
2 30
^
6 6

③ $\sqrt{5m^2n^5}$

$mn^2\sqrt{5n}$

④ $\sqrt{20}$

$2\sqrt{5}$

20
^
5 4
^
2 2

⑤ $\sqrt{108a^2b^3}$

$6ab\sqrt{3b}$

108
^
36 3
^
6 6

⑥ $\sqrt{121x^2y^4}$

$11xy^2$

Part 2 * If I want a solution / zero
y must equal zero!

$$\textcircled{4} \quad y = x^2 - 144$$
$$0 = x^2 - 144$$

$$\sqrt{144} = \sqrt{x^2}$$

$$x = \pm 12$$

$$\textcircled{5} \quad y = 3x^2 - 24$$
$$0 = 3x^2 - 24$$

$$24 = 3x^2 \quad 8$$

$$\sqrt{8} = \sqrt{x^2}$$

$$x = \sqrt{8}$$

$$\textcircled{4} \sqrt{2}$$

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

$$\textcircled{6} \quad y = -2(x+1)^2 + 8$$
$$0 = -2(x+1)^2 + 8$$

$$\frac{-8}{-2} = \frac{-2(x+1)^2}{-2}$$

$$\sqrt{4} = \sqrt{(x+1)^2}$$

$$\pm 2 = x+1$$

$$x+1 = 2$$

$$-1 \quad -1$$

$$x = 1$$

$$x+1 = -2$$

$$x-1 \quad -1$$

$$x = -3$$

$$\textcircled{7} \quad y = 2x^2 - 8$$
$$0 = 2x^2 - 8$$

$$8 = 2x^2$$

$$\frac{8}{2} = \frac{2x^2}{2}$$

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

$$x = \pm 2$$

$$\textcircled{8} \quad -7x^2 - 3 = 9$$

$$+3 \quad +3$$

$$-7x^2 = 12$$

$$\sqrt{x^2} = \sqrt{12} / 7$$

$$x = \sqrt{12} / 7$$

$$\textcircled{10} \quad (x-1)^2 - 3 = 11$$
$$+3 \quad +3$$

$$\sqrt{(x-1)^2} = \sqrt{14}$$

$$x-1 = \sqrt{14}$$

$$+1 \quad +1$$

$$x = \sqrt{14} + 1$$