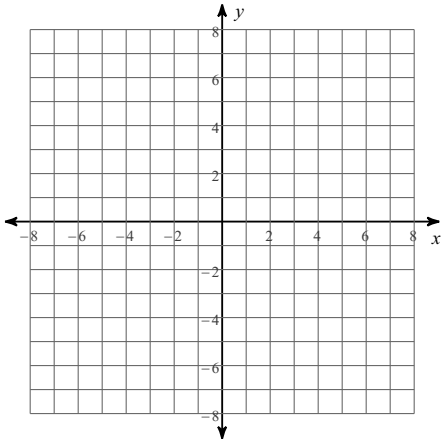
Math 3B Name_____

Radical Review + Exponents

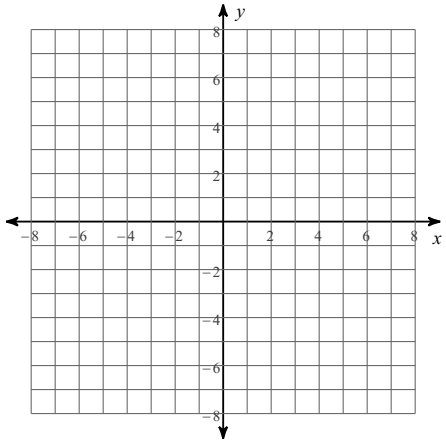
Date_____ Hour____

Identify the domain and range of each. Then sketch the graph.

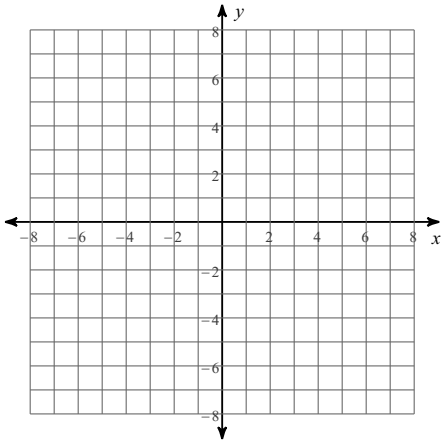
1) $y = \sqrt{x + 1}$



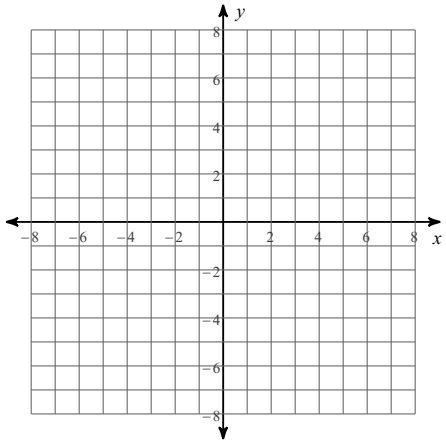
2) $y = \sqrt[3]{x - 3} + 1$



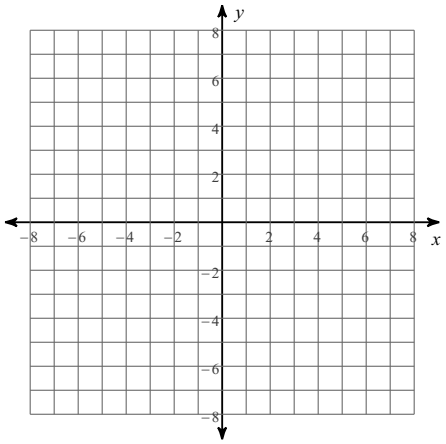
3) $y = \sqrt{x + 2} - 1$



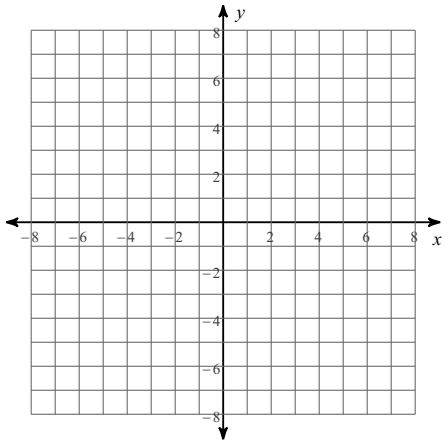
4) $y = \sqrt{x + 3} + 1$



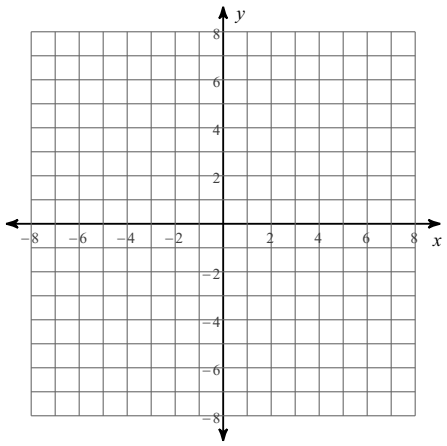
5) $y = \sqrt[3]{x} - 1$



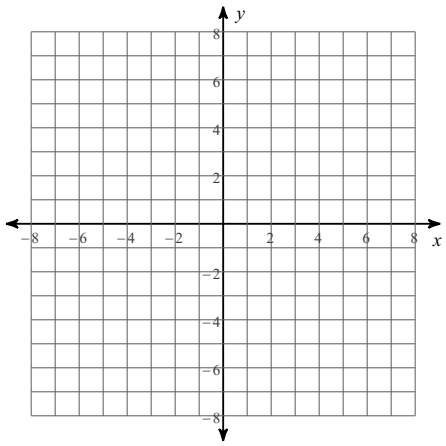
6) $y = 2\sqrt{x}$



7) $y = 3\sqrt{x - 4} - 2$



8) $y = -2 + \sqrt[3]{x}$



Solve each equation. Remember to check for extraneous solutions.

9) $7 = \sqrt{-5 - 6n}$

10) $\sqrt{6 - x} = x$

11) $4 = -5 + \sqrt{11 - 10p}$

12) $k = \sqrt{24 - 2k}$

13) $p - 6 = \sqrt{18 - p}$

14) $x = \sqrt{5x}$

15) $n = \sqrt{-4 + 5n}$

16) $-v + \sqrt{15 - 3v} = 1$

17) $b = \sqrt{4b}$

18) $x = \sqrt{-72 + 17x}$

19) $x = \sqrt{-28 + 11x}$

20) $-2 - \sqrt{3p + 7} = \sqrt{1 - 4p}$

Simplify. Your answer should contain only positive exponents.

21) $2yx^3 \cdot 4x^2y^3$

22) $4u^2v^3 \cdot uv^3 \cdot u^2v^{-4}$

23) $2x^{-1}y^{-4} \cdot 2x^{-1}y^3$

24) $3uv^{-3} \cdot u^3v^{-1}$

25) $\left(2x^{-2}y^{-1} \cdot x^3y^{-3}\right)^4$

26) $\left(2yx^3 \cdot \left(y^3\right)^4\right)^4$

27) $\left(x^2y^{-1}\right)^{-2} \cdot x^{-3}y^{-1}$

28) $\left(2x^{-4}y^{-2} \cdot x^4\right)^{-1}$

29) $\dfrac{\left(m^2n^2\right)^4}{m^{-4}n^4 \cdot m^{-4}n^2}$

30) $\dfrac{2v^2 \cdot u^3v^{-2}}{\left(u^{-2}v^{-3}\right)^{-2}}$

31) $\dfrac{2x^3y^{-3} \cdot \left(x^{-4}y^3\right)^4}{(2xy)^{-1}}$

32) $\dfrac{yx^{-1}}{\left(x^2y^{-2}\right)^{-1} \cdot y}$

