

①  $(-7, 4)$  &  $(5, -12)$   
 $x_1$   $y_1$   $x_2$   $y_2$

$$\underline{y - y_1 = m(x - x_1)}$$

$$y = mx + b$$

$y$ -int  
↓

$$\text{Slope: } m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-12 - 4}{5 - (-7)} = \frac{-16}{12} = \underline{-\frac{4}{3}}$$

$$\boxed{y - 4 = -\frac{4}{3}(x + 7)}$$

$$4 = -\frac{4}{3}(-7) + b$$

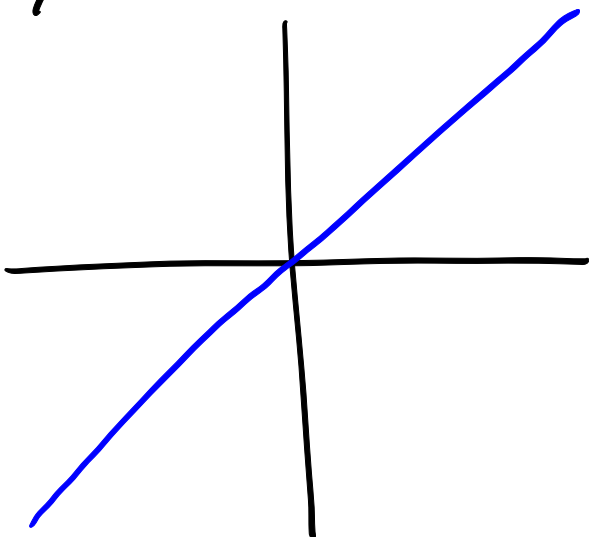
$$4 = \frac{28}{3} + b$$

$$b = -\frac{16}{3}$$

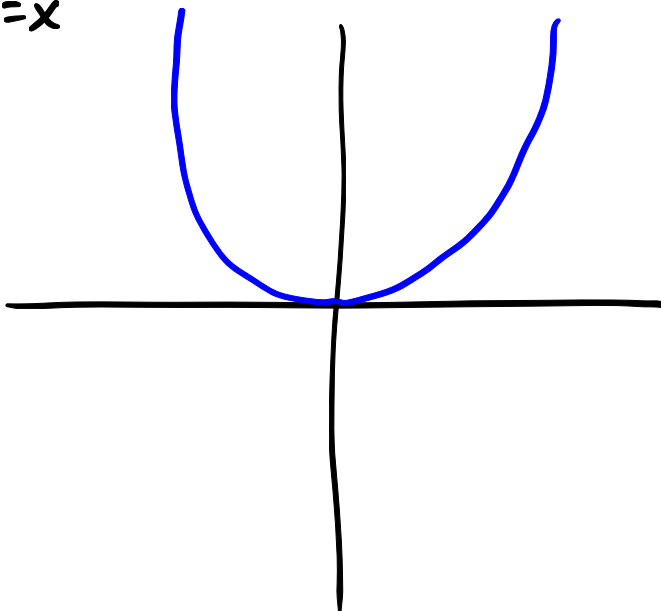
$$\boxed{y = -\frac{4}{3}x - \frac{16}{3}}$$

②

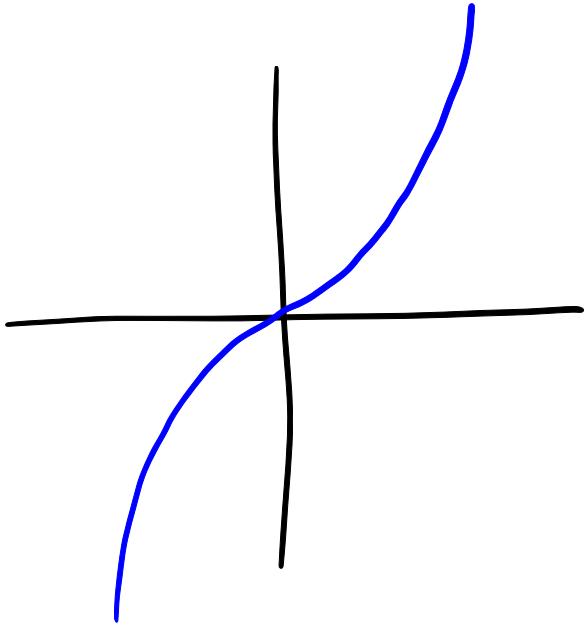
$$y = x$$



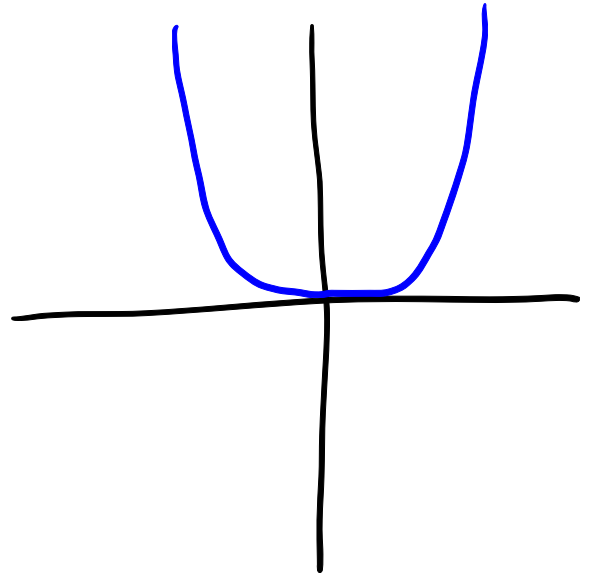
$$y = x^2$$



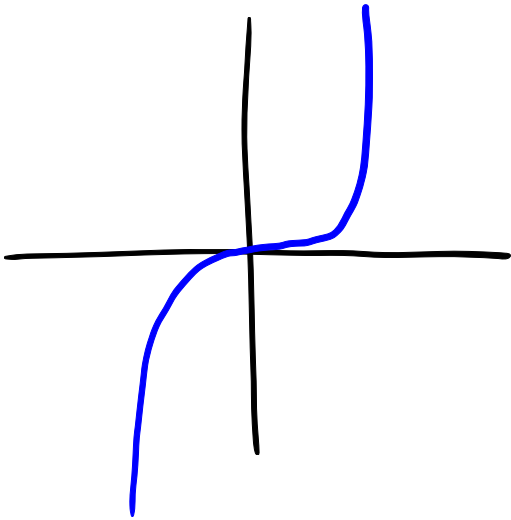
$$y = x^3$$



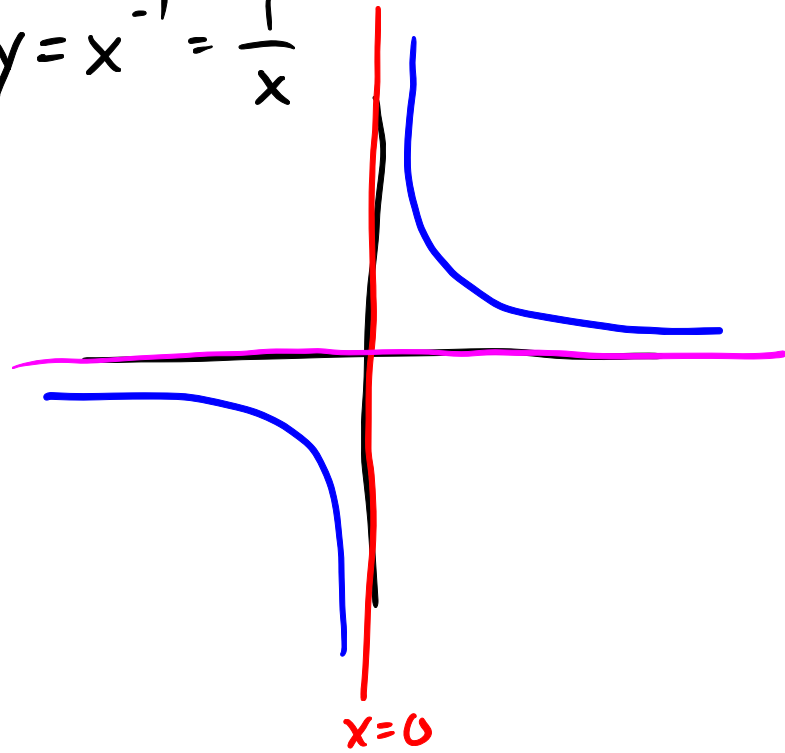
$$y = x^4$$



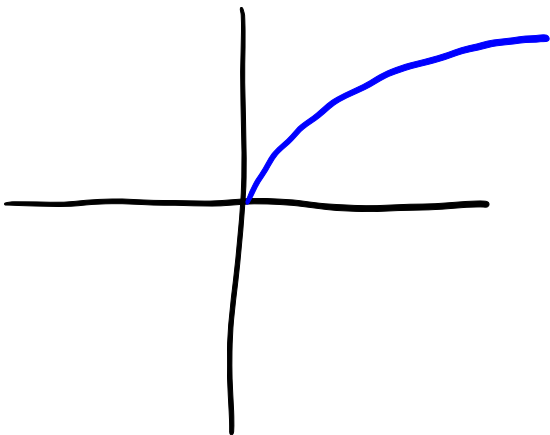
$$y = x^5$$



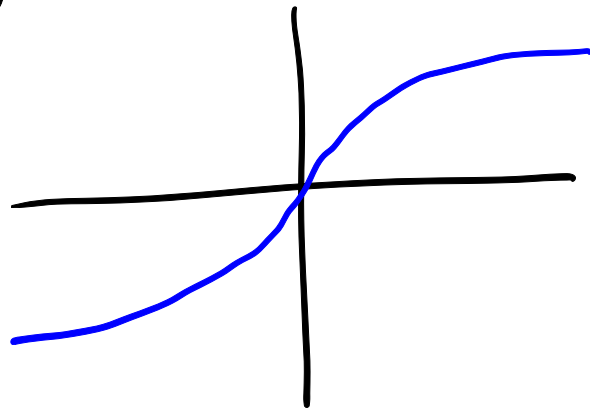
$$y = x^{-1} = \frac{1}{x}$$



$$y = x^{1/2} = \sqrt{x}$$



$$y = x^{1/3} = \sqrt[3]{x}$$



③  $y = -2(x+3)^2 - 4$

neg = open down  
2 = "steeper"

horizontal left 3

vertical down 4

