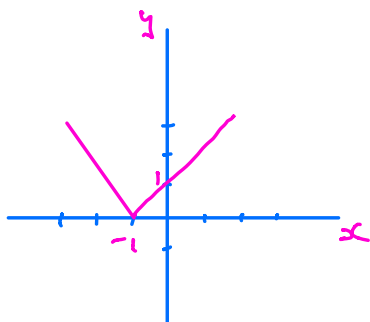


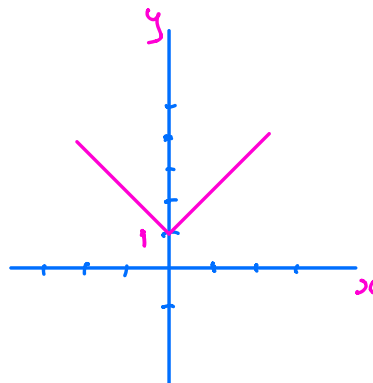
Modulus Function Examples

- 2 Given that $f(x) = |x|$ and $g(x) = x + 1$, sketch the graphs of the composite functions $y = fg(x)$ and $y = gf(x)$, indicating clearly which is which. [4]

$$y = fg(x) = f(x+1) = |x+1|$$

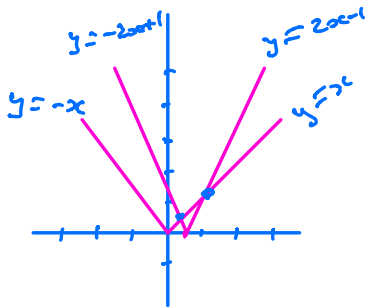


$$y = gf(x) = g(|x|) = |x| + 1$$



1 Solve the equation $|2x - 1| = |x|$.

[4]



$$2x = 2x - 1$$

$$1 = 2x - x$$

$$1 = x$$

$$\underline{x = 1}$$

$$x = -2x + 1$$

$$x + 2x = 1$$

$$3x = 1$$

$$x = \frac{1}{3}$$

$$\underline{x = \frac{1}{3}}$$