

17) $h(a) = 3a$ $D: (-\infty, \infty)$ linear
 $g(a) = -a^3 - 3$ $D: (-\infty, \infty)$ cubic

$$\left(\frac{h}{g}\right)(a) = \frac{3a}{-a^3 - 3}$$

$$D: (-\infty, \sqrt[3]{-3}) \cup (\sqrt[3]{-3}, \infty)$$

$$\begin{aligned} -a^3 - 3 &\neq 0 \\ -a^3 &\neq 3 \\ \sqrt[3]{a^3} &\neq \sqrt[3]{-3} \\ a &\neq \sqrt[3]{-3} \end{aligned}$$

1) $(g \cdot h)(n) = -3n^3 - 4n^2 - 8n + 8$

$$(n^2 + 2n + 4)(-3n + 2)$$

$$\begin{array}{r} -3n^3 - 6n^2 - 12n \\ \quad + 2n^2 + 4n + 8 \\ \hline -3n^3 - 4n^2 - 8n + 8 \\ \quad -3 - 4 \quad \cancel{-8} \quad \cancel{+8} \end{array}$$

$$(g \cdot h)(1) = -7$$

$$\begin{array}{r} 1 + 2 + 4 \quad -3 + 2 \\ 7 \quad \cdot \quad -1 \end{array}$$

$$4) \left(\frac{g}{f}\right)(3) = \frac{11}{2}$$

$$\left(\frac{g}{f}\right)(a) = \frac{3a+2}{2a-4} = \frac{3a+2}{2(a-2)}$$

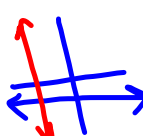
$2a-4 \neq 0$
 $a \neq 2$

$$9) (g-f)(x) = -x^2 - 3x - 6$$

$(-\infty, \infty)$

$$12) (h-g)(t) = -1$$

$y = -1$



$(-\infty, \infty)$