Name: _____

Composition of Three Functions

A) If $f(x) = 7$, $g(x) = x^3 - 5x^2$ and $h(x) = 4x - 1$, find the following.

1) $f(g(h(s + 9)))$

2) $g\left(f\left(g\left(-\frac{k}{4}\right)\right)\right)$

B) If $f(x) = x^2 - 6x$, $g(x) = -\frac{x}{8}$ and $h(x) = 4x$, find the following.

1) $(g\ o\ f\ o\ h)(z^2)$

C) If $f(x) = \frac{6}{x}$, $g(x) = 3$ lo

1) $(g\ o\ (h\ o\ f))\left(\frac{1}{d}\right)$

3) Is $(g\ o\ (h\ o\ f))\left(\frac{1}{d}\right)$ =

D) 1) If $f(x) = 16$, $g(x) = \log_4 x$ and $h(x) = e^x$, which of the following represents $(h\ o\ g\ o\ f)(r + 1)$?

i) e^2 ii) $-e^2$ iii) e^{16} iv) $-e^{16}$

2) If $f(x) = x^4 - 9x - 13$, $g(x) = \sqrt[3]{x}$ and $h(x) = 2x^2$, which of the following represents $f(h(g(q^3)))$?

i) $16q^8 - 18q^2 + 13$ ii) $16q^8 - 18q^2 - 13$ iii) $16q^8 + 18q^2 - 13$ iv) $16q^8 + 18q^2 + 13$