

Combinations of Functions

Match. Not all choices are used. You may need to simplify your answer.

$$f(x) = x^2 - 7$$

$$g(x) = \sqrt{x+3}$$

$$h(x) = \frac{x}{x+17}$$

___1. $f(x) + g(x)$

A. $x^2 - 7\sqrt{x+3}$

___2. $h(x) - f(x)$

B. $(x^2 - 7)\sqrt{x+3}$

___3. $g(f(x))$

C. $x - 4$

___4. $f(g(x))$

D. $x - 2$

___5. $f(x)g(x)$

E. $\sqrt{\sqrt{x+3}+3}$

___6. $h(x)g(x)$

F. $\sqrt{\frac{x}{x+17}+3}$

___7. $h(g(x))$

G. $\frac{x\sqrt{x+3}}{x+17}$

___8. $\frac{g(x)}{h(x)}$

H. $\frac{\sqrt{x+3}}{\sqrt{x+3}+17}$

___9. $g(h(x))$

I. $\sqrt{x^2 - 4}$

___10. $g(g(x))$

J. $\frac{(x+17)\sqrt{x+3}}{x}$

K. $\frac{x}{x+17} - x^2 - 7$

L. $x^2 - 7 + \sqrt{x+3}$

M. None of these listed