

COMPOSITION OF FUNCTIONS PRACTICE

Solve the composition of functions. No need to simplify.

$f(x) = 2x + 5$	$g(x) = 3x$	$h(x) = x^2 - 4$
-----------------	-------------	------------------

- | | | |
|---------------------|---------------------|---------------------|
| 1. $(f \circ g)(x)$ | 2. $(g \circ f)(x)$ | 3. $(g \circ h)(x)$ |
| 4. $(h \circ g)(x)$ | 5. $(f \circ h)(x)$ | 6. $(h \circ f)(x)$ |
| 7. $(f \circ f)(x)$ | 8. $(g \circ g)(x)$ | 9. $(h \circ h)(x)$ |

$f(x) = x^3$	$g(x) = 2x^2 + 9x$	$h(x) = 3x - 1$
--------------	--------------------	-----------------

- | | | |
|----------------------|----------------------|----------------------|
| 10. $(f \circ g)(x)$ | 11. $(g \circ f)(x)$ | 12. $(g \circ h)(x)$ |
| 13. $(h \circ g)(x)$ | 14. $(f \circ h)(x)$ | 15. $(h \circ f)(x)$ |
| 16. $(f \circ f)(x)$ | 17. $(g \circ g)(x)$ | 18. $(h \circ h)(x)$ |

$f(x) = \sqrt{x - 2}$	$g(x) = x^4 + 5$	$h(x) = 5x - 2$
-----------------------	------------------	-----------------

- | | | |
|----------------------|----------------------|----------------------|
| 19. $(f \circ g)(x)$ | 20. $(g \circ f)(x)$ | 21. $(g \circ h)(x)$ |
| 22. $(h \circ g)(x)$ | 23. $(f \circ h)(x)$ | 24. $(h \circ f)(x)$ |
| 25. $(f \circ f)(x)$ | 26. $(g \circ g)(x)$ | 27. $(h \circ h)(x)$ |

$f(x) = x^2$	$g(x) = x + 1$	$h(x) = \frac{1}{x}$
--------------	----------------	----------------------

- | | | |
|------------------------------|------------------------------|------------------------------|
| 28. $(f \circ g \circ h)(x)$ | 29. $(g \circ f \circ h)(x)$ | 30. $(h \circ g \circ f)(x)$ |
| 31. $(g \circ f \circ g)(x)$ | 32. $(g \circ g \circ h)(x)$ | 33. $(f \circ f \circ f)(x)$ |

Evaluate:

$f(x) = x^2$	$g(x) = \sqrt{x - 1}$	$h(x) = 6x + 5$
--------------	-----------------------	-----------------

- | | | |
|-----------------------|-----------------------|----------------------|
| 34. $(f \circ g)(10)$ | 35. $(g \circ f)(3)$ | 36. $(g \circ h)(5)$ |
| 37. $(h \circ g)(5)$ | 38. $(f \circ h)(4)$ | 39. $(h \circ f)(1)$ |
| 40. $(f \circ f)(2)$ | 41. $(g \circ g)(17)$ | 42. $(h \circ h)(0)$ |

$f(x) = 2x$	$g(x) = x^2 + 7$	$h(x) = \frac{1}{2}(x + 3)$
-------------	------------------	-----------------------------

- | | | |
|----------------------|----------------------|----------------------|
| 43. $(f \circ g)(2)$ | 44. $(g \circ f)(0)$ | 45. $(g \circ h)(2)$ |
| 46. $(h \circ g)(0)$ | 47. $(f \circ h)(3)$ | 48. $(h \circ f)(3)$ |
| 49. $(f \circ f)(5)$ | 50. $(g \circ g)(4)$ | 51. $(h \circ h)(4)$ |