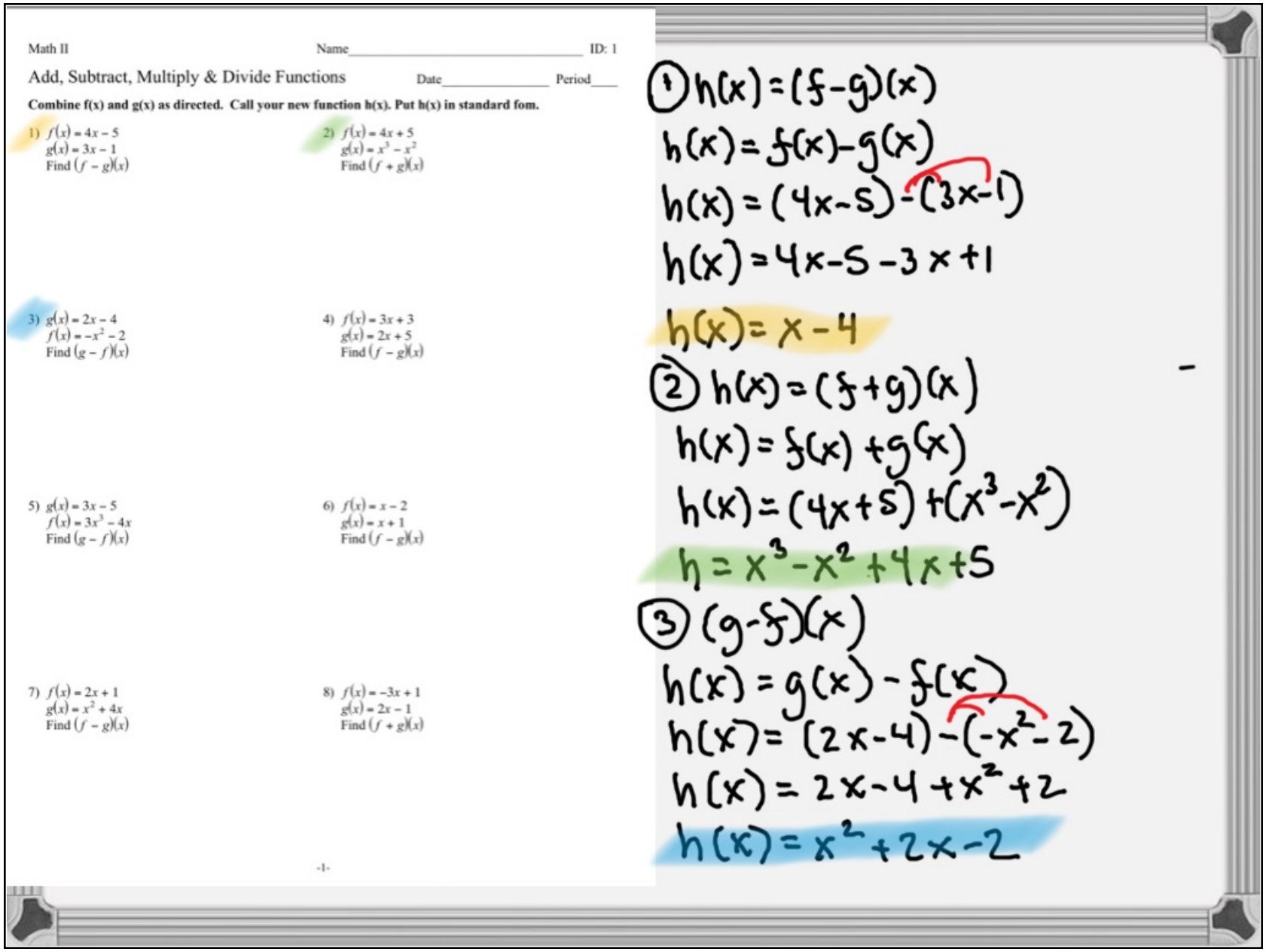

Math II Name_____ ID: 1

Add, Subtract, Multiply & Divide Functions Date_____ Period____

Combine f(x) and g(x) as directed. Call your new function h(x). Put h(x) in standard fom.

1) $f(x) = 4x - 5$
$g(x) = 3x - 1$
Find $(f - g)(x)$

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

3) $g(x) = 2x - 4$
$f(x) = -x^2 - 2$
Find $(g - f)(x)$

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

5) $g(x) = 3x - 5$
$f(x) = 3x^3 - 4x$
Find $(g - f)(x)$

6) $f(x) = x - 2$
$g(x) = x + 1$
Find $(f - g)(x)$

7) $f(x) = 2x + 1$
$g(x) = x^2 + 4x$
Find $(f - g)(x)$

8) $f(x) = -3x + 1$
$g(x) = 2x - 1$
Find $(f + g)(x)$

-1-

① $h(x) = (f-g)(x)$

$h(x) = f(x) - g(x)$

$h(x) = (4x-5) - (3x-1)$

$h(x) = 4x - 5 - 3x + 1$

$h(x) = x - 4$

② $h(x) = (f+g)(x)$

$h(x) = f(x) + g(x)$

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

$h = x^3 - x^2 + 4x + 5$

③ $(g-f)(x)$

$h(x) = g(x) - f(x)$

$h(x) = (2x-4) - (-x^2 - 2)$

$h(x) = 2x - 4 + x^2 + 2$

$h(x) = x^2 + 2x - 2$

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Add, Subtract, Multiply & Divide Functions

Date_____ Period____

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$f(x) = 3x^3 - 4x$
Find $(g - f)(x)$

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$g(x) = x + 1$
Find $(f - g)(x)$

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$g(x) = x^2 + 4x$
Find $(f - g)(x)$

8) $f(x) = -3x + 1$
$g(x) = 2x - 1$
Find $(f + g)(x)$

-1-

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

(5) $h(x) = g(x) - f(x)$
$= (3x-5) - (3x^3 - 4x)$
$h(x) = 3x - 5 - 3x^3 + 4x$
$h(x) = -3x^3 + 7x - 5$

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

Math II Name_____ ID: 1

Add, Subtract, Multiply & Divide Functions Date_____ Period____

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$f(x) = -x^2 - 2$
Find $(g - f)(x)$

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Find $(f - g)(x)$

8) $f(x) = -3x + 1$
$g(x) = 2x - 1$
Find $(f + g)(x)$

-1-

(7) $h(x) = f(x) - g(x)$
$= (2x+1) - (x^2+4x)$
$= 2x+1-x^2-4x$
$h(x) = -x^2 - 2x + 1$

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

9) $f(x) = 4x + 2$
$g(x) = x^2 - 4x$
Find $(f \cdot g)(x)$

10) $f(x) = x^3 - 2$
$g(x) = 4x$
Find $(f \cdot g)(x)$

11) $f(x) = 2x$
$g(x) = x^2 - 4x$
Find $(f \cdot g)(x)$

12) $g(x) = x - 1$
$f(x) = 2x - 2$
Find $(g \cdot f)(x)$

13) $f(x) = 2x + 5$
$g(x) = -2x^2 - 2x$
Find $(f \cdot g)(x)$

14) $f(x) = x + 1$
$g(x) = x^2 + 5$
Find $(f \cdot g)(x)$

Combine f(x) and g(x) as directed. Call your new function h(x). State any bad values for x.

15) $f(x) = x^3 - 3x$
$g(x) = x - 2$
Find $\left(\frac{f}{g}\right)(x)$

16) $g(x) = -4x + 2$
$f(x) = x - 5$
Find $\left(\frac{g}{f}\right)(x)$

17) $f(x) = -x + 3$
$g(x) = x - 1$
Find $\left(\frac{f}{g}\right)(x)$

18) $g(x) = x^3 - 2x^2$
$f(x) = 2x + 3$
Find $\left(\frac{g}{f}\right)(x)$

-2-

(9) $f(x) \cdot g(x) = h(x)$
$(4x+2)(x^2-4x)$
$4x^3 - 16x^2 + 2x^2 - 8x$
$h(x) = 4x^3 - 14x^2 - 8x$

(10) $f(x) \cdot g(x) = h(x)$
$(x^3-2)(4x) = h(x)$
$(4x^4 - 8x) = h(x)$

(11) $f(x) \cdot g(x) = h(x)$
$(2x)(x^2-4x)$
$2x^3 - 8x^2 = h(x)$

9) $f(x) = 4x + 2$
$g(x) = x^2 - 4x$
Find $(f \cdot g)(x)$

10) $f(x) = x^3 - 2$
$g(x) = 4x$
Find $(f \cdot g)(x)$

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18) $g(x) = x^3 - 2x^2$
$f(x) = 2x + 3$
Find $\left(\frac{g}{f}\right)(x)$

-2-

(12) $h(x) = g(x) \cdot f(x)$
$= (x-1)(2x-2)$
$= 2x^2 - 2x - 2x + 2$
$h(x) = 2x^2 - 4x + 2$

(13) $h(x) = f(x) \cdot g(x)$
$h(x) = (2x+5)(-2x^2-2x)$
$h(x) = (-4x^3 - 4x^2 - 10x^2 - 10x)$
$h(x) = -4x^3 - 14x^2 - 10x$

(14) $h(x) = f(x) \cdot g(x)$
$h(x) = (x+1)(x^2+5)$
$h(x) = x^3 + 5x + x^2 + 5$
$h(x) = x^3 + x^2 + 5x + 5$

9) $f(x) = 4x + 2$
$g(x) = x^2 - 4x$
Find $(f \cdot g)(x)$

10) $f(x) = x^3 - 2$
$g(x) = 4x$
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$f(x) = 2x + 3$
Find $\left(\frac{g}{f}\right)(x)$

(16) $\frac{g(x)}{f(x)} = \frac{-4x+2}{x-5}$; $x \neq 5$

(17) $\frac{f(x)}{g(x)} = \frac{-x+3}{x-1}$; $x \neq 1$

(18) $\frac{g(x)}{f(x)} = \frac{x^3-2x^2}{2x+3}$; $x \neq -3/2$

$2x+3=0$ $2x=-3$
$x=-3/2$