Alg 2 Monday, September 10, 2018 Bellwork

Use these functions:  $f(x) = x^2 + 4x - 12$  g(x) = 3x - 5 h(x) = 2x + 3Perform the following function operations. Simplify your answer. State the domain of the resulting function.

1. 
$$(g-f)(x)$$

2. 
$$(f \cdot h)(x)$$

Factor each completely.

3. 
$$32x^3 + 8x^2 - 60x$$

4. 
$$6x^3 - 96x$$

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Answers

Use these functions:

$$f(x) = x^2 + 4x - 12$$

$$g(x) = 3x - 5$$

h(x) = 2x + 3

Perform the following function operations. Simplify your answer. State the domain of the resulting function.

1. 
$$(g-f)(x)$$

$$= (3x-5) - (x^2+4x-12)$$

$$= -x^2 - x + 7$$

Domain: R

2. 
$$(f \cdot h)(x)$$

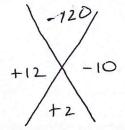
$$= 2 \times 2 \times 3 + 8 \times 2 - 24 \times$$

Domain: R

Factor each completely.

3. 
$$32x^3 + 8x^2 - 60x$$

BCF: 4X



$$\frac{2x}{4x} + \frac{3}{8x^2} + 12x$$

$$= \frac{1}{4x(2x+3)(4x-5)}$$

4. 
$$6x^3 - 96x$$

DIFFERENCE OF PERFECT SQUARES

$$= 6x (x \pm 4)$$