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9.5 Classwork: Rounding and functions

1. Do Now: Which expressions are equivalent to $3\sqrt{5} + \sqrt{5}$?

☒ $\sqrt{5} + \sqrt{5} + \sqrt{5} + \sqrt{5}$

☐ $\sqrt{8} + \sqrt{5}$

☐ $3\sqrt{10}$

☒ $(3+1)\sqrt{5}$

☐ $\sqrt{3}\sqrt{5}$

Function substitution

2. (a) Given $f(x) = 4x + 7$.Simplify $f(2)$.

$$f(2) = 4(2) + 7 \\ = 15$$

(b) Given $g(x) = \frac{3}{2}x - 5$.Simplify $g(4)$.

$$g(4) = \frac{3}{2}(4) - 5 \\ = 3$$

(c) Given $h(x) = x^2 - 4x + 1$.Simplify $h(0)$.

$$h(0) = 0^2 - 4(0) + 1 \\ = 1$$

(d) Given $j(x) = x - 11$.Find x such that $j(x) = 5$.

$$j(x) = x - 11 = 5 \\ x = 16$$

Rounding

3. (a) Round to the nearest hundredth

$$15.944732$$

$$\approx 15.94$$

(b) Round to the nearest thousandth

$$\sqrt{2} = 1.414213...$$

$$\approx 1.414$$

(c) Round to the nearest hundredth

$$\theta = \frac{\pi}{3} = 1.04719...$$

$$\approx 1.05$$

(d) Round to the nearest tenth

$$\alpha = \frac{3}{2}\pi = 4.712388...$$

$$\approx 4.7$$

(e) Round to three significant figures

$$19.49711 \approx 19.5$$

(f) Round to three significant figures

$$6.56501 \approx 6.57$$