

March 10, 2015

feet = $10(0) + 20$
 feet = 20

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9.1
 #34) $f(x) = \sqrt{8x-6}$

$8x-6 \geq 0$
 $\frac{8x}{8} \geq \frac{6}{8}$
 $x \geq \frac{3}{4}$
 $[\frac{3}{4}, \infty)$

#4) $f(x) = \sqrt{7x+8}$

$7x+8 \geq 0$
 $7x \geq -8$
 $x \geq -\frac{8}{7}$
 $[-\frac{8}{7}, \infty)$

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#21) $f(x) = \sqrt{3-x}$

x	f(x)
2	1
3	0
-6	3

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

D: $3-x \geq 0$ | D: $-(x-3) \geq 0$
 $3 \geq x$ | $-x+3 \geq 0$
 $(-\infty, 3]$ | $-x \geq -3$
 $x \leq 3$
 $(-\infty, 3]$

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Simplify Radicals

$\sqrt{25} = \sqrt{(5)^2}$
 $= 5$

$\sqrt{50} = \sqrt{25 \cdot 2}$
must be multiplication
 $= \sqrt{25} \cdot \sqrt{2}$
 $= \sqrt{(5)^2} \cdot \sqrt{2}$
 $= 5 \cdot \sqrt{2}$
 $= 5\sqrt{2}$

quicker: $\sqrt{50} = \sqrt{25 \cdot 2}$
 $= 5\sqrt{2}$

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$$\begin{aligned} \sqrt{66} &= \sqrt{(\quad)^2} \\ &= \sqrt{11 \cdot 6} \\ &= \sqrt{66} \end{aligned}$$

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$$\begin{aligned} \sqrt{180} &= \sqrt{36 \cdot 5} \\ &= \sqrt{(6)^2 \cdot 5} \\ &= 6\sqrt{5} \end{aligned}$$

$$\begin{aligned} 6\sqrt{5} &= \sqrt{(6)^2 \cdot 5} \\ &= \sqrt{36 \cdot 5} \\ &= \sqrt{180} \end{aligned}$$

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$$\begin{aligned} 9\sqrt{3} &= \sqrt{9^2 \cdot 3} \\ &= \sqrt{81 \cdot 3} \\ &= \sqrt{243} \end{aligned}$$

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$$\begin{aligned} \sqrt{x^2} &= \sqrt{x \cdot x} \end{aligned}$$

How many groups of 2 x's do we have?
ans.: 1 group of 2 x's

$$= x$$

$$\begin{aligned} \sqrt{x^2} &= \sqrt{(x)^2} \\ &= x \end{aligned}$$

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$$\begin{aligned} \sqrt{y^{42}} &= \sqrt{(y^{21})^2 \cdot y} \\ &= y^{21} \sqrt{y} \end{aligned}$$

$$\begin{array}{r} 42 \\ 2 \overline{) 42} \\ \underline{42} \\ 0 \end{array}$$

2 · 21 = 42

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$$\begin{aligned} \sqrt{x^{23}} &= \sqrt{(x^{14})^2 \cdot x} \\ &= x^{14} \sqrt{x} \end{aligned}$$

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