Homework Answers:

Quiz - No Calculator

P. 218

34) $\left\{-\frac{1}{2},3\right\}$

pp. 241-2

4) {-1} 12) {4} 13) {x|x ≠ 0, 6} 14) {}

22) {-23/8}

Oct 6-7:19 PM

Homework Answers:

P. 218

34) $\left\{-\frac{1}{2},3\right\}$

pp. 241-2

4) {-1} 12) {4} 13) {x|x ≠ 0, 6} 14) {}

22) {-23/8}

$4)\ \frac{6}{1}\left(\frac{t+1}{3}-\frac{t-1}{2}\right)=(1)\frac{6}{1}$

$2(t+1)-3(t-1)=6$

$2t+2-3t+3=6$

$-t+5=6$

$-1=t$

$34)\ \frac{2x^2-5x-3}{2}=\frac{0}{2}$

$x^2-\frac{5}{2}x+\frac{25}{16}=\frac{3}{2}+\frac{25}{16}$

$\left(x-\frac{5}{4}\right)^2=\frac{24}{16}+\frac{25}{16}$

$\sqrt{\left(x-\frac{5}{4}\right)^2}=\sqrt{\frac{49}{16}}$

$x-\frac{5}{4}=\pm\frac{7}{4}$

$x=\frac{5}{4}\pm\frac{7}{4}$

$\left(-\frac{5}{2}\right)^2=\left(-\frac{5}{2}\cdot\frac{1}{2}\right)^2$

$=\left(-\frac{5}{4}\right)^2=\frac{25}{16}$

$(x+\frac{b}{2})^2$

$x=\left\{3,-\frac{1}{2}\right\}$

Oct 6-7:19 PM

13) $\left(\frac{1}{x-6}-\frac{1}{x}\right)=\left(\frac{6}{x^2-6x}\right)\frac{x(x-6)}{1}$ $x\neq 0,6$

$x(x-6)$

$x-(x-6)=6$

$x-x+6=6$

$6=6$

$\{x \mid x\in\mathbb{R}, x\neq 0,6\}$

Oct 19-7:43 AM

14) $\left(\frac{8}{x^2-4}=\frac{x}{x-2}-\frac{2}{x+2}\right)\frac{(x+2)(x-2)}{1}$ $x\neq\pm 2$

$8=x(x+2)-2(x-2)$

$8=x^2+4$

$x^2-4=0$

$\sqrt{x^2}=\sqrt{4}$

$x=\pm 2$

$\emptyset$ or $\{\}$

Oct 19-7:46 AM

22

$\frac{1}{3x+6} - \frac{1}{x^2-4} = \frac{3}{x-2}$

$\frac{1}{3(x+2)} \quad \frac{1}{(x+2)(x-2)}$

CCD: $3(x+2)(x-2)$

$(x-2) - 3 = 3(3)(x+2)$

Oct 19-7:44 AM

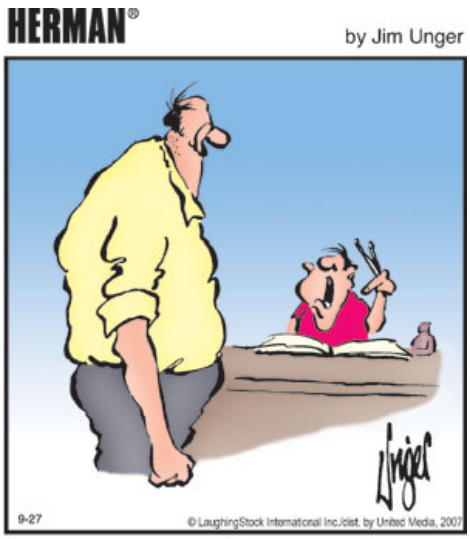
You have 2 minutes to review
Day 4 Function Properties
before the Quiz.

Sep 30-2:23 PM

QUIZ

Oct 10-8:48 PM

Radical Equations



"How d'you expect me to do all this homework without a computer?"

Sep 30-1:23 PM

↳ Always Isolate Radicals
You can only square or cube **sides** of equations, **not terms**...

↳ Always Check Answers
You may have **extraneous roots** → not all answers work...

↳ Answers must be in the REAL Numbers
You **can't** have a negative under a **square root**...
You **can** have a negative under a **cube root**...

$\sqrt{-9}$ $\sqrt[3]{-8} = -2$

Sep 30-2:39 PM

Solve the following:

1. $\left(\sqrt{4x+9}\right)^2 = 5^2$

$4x+9 = 25$
$4x = 16$
$x = 4$
$\{4\}$

Isolate
Check $x=4$
$\sqrt{4(4)+9} = 5$
$\sqrt{16+9} = 5$
$\sqrt{25} = 5$
$5 = 5$

$(\sqrt{m})^2 = \sqrt{m}\cdot\sqrt{m} = \sqrt{m^2} = m$

Sep 30-2:39 PM

2. $\left(\sqrt[3]{x^2-1}\right)^3 = 2^3$

$x^2-1 = 8$

$\sqrt{x^2} = \pm\sqrt{9}$

$x = \{\pm 3\}$

Isolate

Check +3

$\sqrt[3]{3^2-1} = 2$

$\sqrt[3]{8} = 2$

$2 = 2$ ✓

Check -3

$\sqrt[3]{(-3)^2-1} = 2$

$\sqrt[3]{8} = 2$

$2 = 2$ ✓

Sep 30-2:39 PM

3. $\left(\sqrt{x+7}\right)^2 = (x-5)^2$ Isolate

$x+7 = (x-5)(x-5)$

$= x^2-5x-5x+25$

$x+7 = x^2-10x+25$

$-x \quad -7 \qquad -x \quad -7$

$x^2-11x+18 = 0$

$(x-9)(x-2) = 0$

$x = 9 \mid x = 2$

Ch $x=9$

$\sqrt{9+7} = 9-5$

$\sqrt{16} = 4$

$4 = 4$ ✓

$\{9\}$

Ch $x=2$

$\sqrt{2+7} = 2-5$

$\sqrt{9} = -3$

$3 \neq -3$

Sep 30-2:40 PM

4. $(\sqrt{5x+6})^2 = (3+\sqrt{x+3})^2$ isolate

$5x+6 = (3+\sqrt{x+3})(3+\sqrt{x+3})$

$5x+6 = 9+3\sqrt{x+3}+3\sqrt{x+3}+x+3$

$5x+6 = 12+x+6\sqrt{x+3}$

$-x \quad -12 \quad -12 \quad -x$

$\frac{4x-6}{6} = \frac{6\sqrt{x+3}}{6}$

$\left(\frac{2x-3}{3}\right)^2 = (\sqrt{x+3})^2$

$\frac{9}{1}\left(\frac{4x^2-12x+9}{9}\right) = \left(\frac{x+3}{1}\right)\frac{9}{1}$

$4x^2-12x+9 = 9x+27$

$-9x \quad -27 \quad -9x \quad -27$

$4x^2-21x-18=0$

$(\sqrt{x+3})^2$

$\frac{4x-6}{6} = \frac{4x}{6} - \frac{6}{6}$

$= \frac{2}{3}x - 1$

$4x^2-21x-18=0 \quad P=-72 \quad S=-21 \quad -24,3$

$(x-6)(4x+3)=0$

$x=6 \quad | \quad x=\frac{-3}{4}$ reject

$\{6\}$

Sep 30-2:41 PM

5. $\sqrt{2x-5}-\sqrt{x-3}=1$

$(\sqrt{2x-5})^2 = (1+\sqrt{x-3})^2$

$2x-5 = 1+2\sqrt{x-3}+x-3$

$2x-5 = -2+x+2\sqrt{x-3}$

$-x+2 \quad +2 \quad -x$

$\frac{x-3}{2} = \frac{2\sqrt{x-3}}{2}$

$\left(\frac{x-3}{2}\right)^2 = (\sqrt{x-3})^2$

$\frac{x^2-6x+9}{4} = \frac{x-3}{1}$

$x^2-6x+9 = 4x-12$

$-4x+12 \quad -4x+12$

$x^2-10x+21=0$

$x^2-10x+21=0$

$(x-7)(x-3)=0$

$x=7 \quad | \quad x=3$

$\{3,7\}$

check

Oct 15-12:12 PM

HW: PP. 241 - 242
26, 31, 34, 50, 54, 64, 67

TEST Wednesday ! ! !
GRADED DUE MONDAY!

Oct 15-12:12 PM

Oct 16-3:54 PM