

Review Problems for Final.  
 Good Final Preparation - not to be turned in, but we will be discussing them.

---

Test 7

#9  $\frac{-72 \cdot 10}{-8 \cdot 10} = \frac{-72}{-8} = 9$

$$\begin{array}{r} 9 \\ 8 \overline{) 72} \end{array}$$

Dec 2-2:45 PM

#15.  $7 + 4(6 - 10)$   
 $7 + 4(6 + (-10))$   
 $7 + 4(-4)$   
 $7 + (-16)$   
 $-9$

18.  $\frac{4^2 - 7^2}{(4-7)^2}$   
 $\frac{16 - 49}{(-3)^2} = (-3)(-3)$   
 $\frac{16 + (-49)}{9}$   
 $\frac{-33}{9} = -3\frac{6}{9} = -3\frac{2}{3}$   
 $= -3.67$

Dec 2-3:04 PM

21.  $12 - (-2)$   
 $12 + (2)$   
 $14$

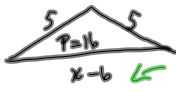
22.  $3(x-6)$   
 $3x - 3(6)$   
 $3x - 18$

27.  $31 - (-3)$   
 $31 + 3 = 34$

High Temp.  $31^\circ$   
 Low Temp.  $-3^\circ$   
 $31 - (-3) = 34$

Dec 2-3:08 PM

Homework Questions:  
 Find x:



$5 + 5 + 6 = 16$   
 $10 + 6 = 16$

$$\begin{array}{r} 5 + 5 + 1(x-6) = 16 \\ 10 + x - 6 = 16 \\ 10 - 6 + x = 16 \\ 4 + x = 16 \\ + (-4) \quad + (-4) \\ \hline 0 + x = 12 \\ x = 12 \end{array}$$

Dec 2-3:12 PM

8.2 #41

$$\begin{array}{r} -3(x-4) + 4x = 3-7 \\ -3(x) - (-3)(4) + 4x = 3-7 \\ -3x - (-12) + 4x = 3 + (-7) \\ -3x + (12) + 4x = -4 \\ -3x + 4x + 12 = -4 \\ 1x + 12 = -4 \\ + (-12) \quad + (-12) \\ \hline x + 0 = -16 \\ \boxed{x = -16} \end{array}$$

$$\begin{array}{r} -3(16-4) + 4(-16) = 3-7 \\ -3(16+(-4)) + 4(-16) = 3+(-7) \\ -3(-20) + 4(-16) = -4 \\ 60 + (-64) = -4 \\ -4 = -4 \end{array}$$

$(x-4)$   
 $(x+(-4))$

Dec 2-3:17 PM

8.3 Mult. Property of Equality

$A = B$   
 $A \cdot C = B \cdot C$

$x + 4 = 7$   
 $x + 0 = 7$

$3 = 2 + 1$   
 $4(3) = 4(2+1)$   
 $12 = 4(3)$   
 $12 = 12$

$x - 10 = 12$   
 $x + 0 = 12$

$(\frac{1}{2})2x = 8(\frac{1}{2})$   
 $1 \cdot x = \frac{8 \cdot 1}{1 \cdot 2}$   
 $x = 4$

$(1)x$   
 $0(2)x = 0(8)$   
 $0x = 0$   
 $0 = 0$

Dec 2-3:27 PM

$$\begin{aligned} \frac{1}{3}x &= 5 \left(\frac{3}{1}\right) & \frac{1}{3}(15) &= 5 & \frac{1}{3} \cdot \frac{15}{1} &= \frac{15}{3} \\ 1 \cdot x &= 15 & 5 &= 5 & & \\ x &= 15 & & & & \end{aligned}$$


---


$$\begin{aligned} \frac{1}{5}a + 3 &= 7 & \frac{1}{5}a + (-3) &= +(-3) & & \\ \frac{1}{5}a &= 4 \left(\frac{5}{1}\right) & a + 15 &= 35 & & \\ a &= 20 & +(-15) &= +(-15) & & \\ \frac{1}{5}(20) + 3 &= 7 & a + 0 &= 20 & & \\ 4 + 3 &= 7 & a &= 20 & & \\ 7 &= 7 & & & & \end{aligned}$$

Dec 2-3:36 PM

Equation

$$\begin{aligned} \frac{2}{5}y &= 6 \left(\frac{5}{2}\right) \\ 1 \cdot y &= 10 \\ y &= 10 \end{aligned}$$

Expression

$$\begin{aligned} 6 \cdot \frac{5}{3} &= \frac{30}{3} = 10 \\ \frac{2}{5} \cdot \frac{5}{2} &= 10 \end{aligned}$$

option for division:

$$\begin{aligned} \frac{5y}{5} &= \frac{25}{5} & \frac{\frac{2}{5}y}{\frac{2}{5}} &= \frac{6}{\frac{2}{5}} \\ 1 \cdot y &= 5 & 1 \cdot y &= 10 \\ y &= 9 & y &= 10 \end{aligned}$$

$$\begin{aligned} 6 \cdot \frac{5}{3} &= 10 \\ 6 \cdot \frac{5}{3} &= \frac{30}{3} = 10 \end{aligned}$$

Dec 2-3:47 PM

$$\begin{aligned} \left(\frac{4}{3}\right)\left(-\frac{3}{4}\right)x &= \frac{2}{5}\left(-\frac{4}{1}\right) \\ 1 \cdot x &= -\frac{8}{5} \\ x &= -\frac{8}{5} \\ z &= -1\frac{3}{5} \end{aligned}$$

$$\begin{aligned} \left(\frac{1}{6}\right)6x &= -4\frac{1}{6} \left(\frac{1}{1}\right) \\ 1 \cdot x &= -7 \\ x &= -7 \\ 6(-7) &= -42 \\ -42 &= -42 \checkmark \\ \frac{1}{6} \cdot \frac{6}{1} &= \frac{6}{6} = 1 \end{aligned}$$

$$\begin{aligned} \frac{-3}{1} \cdot \left(\frac{2}{5}\right) &= \frac{6}{5} \\ \frac{6}{5} &= \frac{6}{5} \checkmark \end{aligned}$$

Dec 2-3:53 PM

$$\begin{aligned} 5x + 6 &= -14 \\ +(-6) &= +(-6) \\ 5x &= -20 \left(\frac{1}{5}\right) \\ 1 \cdot x &= -4 \\ x &= -4 \\ 5(-4) + 6 &= -14 \\ -20 + 6 &= -14 \\ -14 &= -14 \checkmark \end{aligned}$$

$$\begin{aligned} \frac{6x}{6} &= \frac{-42}{6} \\ 1 \cdot x &= -7 \end{aligned}$$

Dec 2-4:00 PM

too hard

$$\begin{aligned} \frac{1}{3}(3x) - \frac{1}{3}(7x) + \frac{1}{3}(6) &= \frac{1}{3}(3) - \frac{1}{3}(18) \\ x - \frac{7}{3}x + \frac{2}{3} &= 1 - 6 \end{aligned}$$

$$\begin{aligned} 3x - 7x + 5 &= 3 - 18 \\ 3x + (-7x) + 5 &= 3 + (-18) \\ -4x + 5 &= -15 \\ +(-5) &= +(-5) \\ -4x + 0 &= -20 \\ (-4)x &= -20 \left(-\frac{1}{4}\right) \\ 1 \cdot x &= +5 \\ x &= 5 \end{aligned}$$

$$\begin{aligned} 3(5) - 7(5) + 5 &= 3 - 18 \\ 15 - 35 + 5 &= 3 + (-18) \\ 15 + (-35) + 5 &= -15 \\ -20 + 5 &= -15 \\ -15 &= -15 \end{aligned}$$

Dec 2-4:04 PM

$$\begin{aligned} -5 + 4 &= 2x - 11 + 3x \\ -1 &= 2x + 3x - 11 \\ -1 &= 5x - 11 \\ + 11 & \quad + 11 \\ 10 &= 5x + 0 \\ 2 &= 1 \cdot x \\ x &= 2 \end{aligned}$$

$$\begin{aligned} -5 + 4 &= 2(2) - 11 + 3(2) \\ -1 &= 4 - 11 + 6 \\ -1 &= -7 + 6 \\ -1 &= -1 \checkmark \end{aligned}$$

Perimeter

$$\begin{aligned} 20 + 20 + 12 + 12 &= 64 \\ 40 + 24 &= 64 \\ 64 &= 64 \end{aligned}$$

$$\begin{aligned} 5x + 5x + 3x + 3x &= 64 \\ 10x + 6x &= 64 \\ 16x &= 64 \left(\frac{1}{16}\right) \\ 1 \cdot x &= \frac{64}{16} \\ x &= 4 \end{aligned}$$

Length = 5(4) = 20  
Width = 3(4) = 12

Dec 2-4:12 PM

8.4 Linear Equations in one variable

Graphing Calculators

- T1-83 Silver Edition
- T1-83 PLUS
- T1-84
- T1-84 PLUS
- T1-84 Silver Edition

(T1-83)

Dec 2-4:23 PM

1. Distribute if necessary

$$4(x+3) = -8$$

$$4x+12 = -8$$

$$+(-12) = +(-12)$$


---


$$4x+0 = -20$$

$$\left(\frac{1}{4}\right) 4x = -20\left(\frac{1}{4}\right)$$

$$1x = -5$$

x = -5

$$4(-5+3) = -8$$

$$4(-2) = -8$$

$$-8 = -8 \checkmark$$

Dec 2-4:27 PM

1. Dist. Prop.  
2. Combine like terms on each side.

$$3(4x-5) + 6 = 3x+9$$

$$3(4x) - 3(5) + 6 = 3x+9$$

$$12x - 15 + 6 = 3x+9$$

$$12x + (-9) = 3x+9$$

$$+(-3x) \quad +(-9)$$


---


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

$$9x + (-9) = 9$$

$$+9 = +9$$


---


$$9x + 0 = 18$$

$$\left(\frac{1}{9}\right) 9x = 18\left(\frac{1}{9}\right)$$

$$1x = 2$$

x = 2

$$3(4(2)-5) + 6 = 3(2) + 9$$

$$3(8-5) + 6 = 6+9$$

$$3(3) + 6 = 6+9$$

$$9+6 = 6+9$$

$$15 = 15 \checkmark$$

Dec 2-4:32 PM