Lesson Quiz

Solve each equation.

1. $7x + 2 = 5x + 8$ $x = 3$
2. $4(2x - 5) = 5x + 4$ $x = 8$
3. $6 - 7(a + 1) = -3(2 - a)$ $x = \frac{1}{2}$
4. $4(3x + 1) - 7x = 6 + 5x - 2$ $x =$ Infinitely many solutions
5. $\frac{2}{3}(3x + 9) = 8x$ $x = 1$
6. A painting company charges $250 base plus $16 per hour. Another painting company charges $210 base plus $18 per hour. How long is a job for which the two companies costs are the same?

$250 + 16h = 210 + 18h$

$h = 20$

Oct 2-11:17 AM

1-5 Solving Equations with Variables on Both Sides

Solve each equation. Check your answers.

1. $3d + 8 = 2d - 17$ $d = -25$

$3d + 8 = 2d - 17$

$-2d \quad -2d$

$d + 8 = -17$

$-8 \quad -8$

$d = -25$

2. $2n - 7 = 5n - 10$ $n = 1$

$-7 = 3n - 10$

$+10 \quad +10$

$3 = 3n$

$\frac{3}{3} \quad \frac{3}{3}$

$1 = n$

3. $p - 15 = 13 - 6p$ $p = 4$

$p - 15 = 13 - 6p$

$+15 + 15$

$7p = 28$

$\frac{7p}{7} = \frac{28}{7}$

$p = 4$

Oct 2-11:04 AM

4. $-t + 5 = t - 19$ $t = 12$

$+t \quad +t$

$5 = 2t - 19$

$+19 \quad +19$

$\frac{24}{2} = \frac{2t}{2}$

$12 = t$

5. $15x - 10 = -9x + 2$ $x = \frac{1}{2}$

6. $1.8r + 9 = -5.7r - 6$ $r = -2$

$1.8r + 9 = -5.7r - 6$

$+5.7r \quad +5.7r$

$7.5r + 9 = -6$

$-9 \quad -9$

$\frac{7.5r}{7.5} = \frac{-15}{7.5}$

$r = -2$

Oct 2-11:05 AM

5) $x = \frac{1}{2}$

$15x - 10 = -9x + 2$

$+9x \quad +9x$

$24x - 10 = 2$

$+10 \quad +10$

$\frac{24x}{24} = \frac{12}{24}$

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

Oct 2-12:19 PM

$x = 5$ The Solution

$5 = 7$ No Solution

$5 = 5$ Infinately many solutions or identity

Oct 2-12:21 PM

7. $2y + 3 = 3(y + 7)$ $y = -18$

8. $4n + 6 - 2n = 2(n + 3)$ $n =$ Identity

9. $6m - 8 = 2 + 9m - 1$ $m = -3$

Oct 2-11:09 AM

N/S b= 3/2 r = -3

10. $-v+5+6v=1+5v+3$ 11. $2(3b-4)=8b-11$ 12. $5(r-1)=2(r-4)-6$

Oct 2-11:10 AM

N/S

10. $-v+5+6v=1+5v+3$

$5v+5 = 5v+4$

$-5v \quad\quad -5v$

$5 = 4$

No Solution

N/S

Oct 2-12:24 PM

b= 3/2

11. $2(3b-4)=8b-11$

$6b-8=8b-11$

$-6b \quad\quad -6b$

$-8=2b-11$

$+11 \quad\quad +11$

$3=2b$

$\frac{3}{2}=b$

$1\frac{1}{2}$

1	3/	2
1	1	.5
1	1	1/2

never use mixed

Oct 2-12:26 PM

r = -3

12. $5(r-1)=2(r-4)-6$

$5r-5=2r-8-6$

$5r-5=2r-14$

$-2r \quad\quad -2r$

$3r-5=-14$

$+5 \quad +5$

$\frac{3r}{3}=\frac{-9}{3}$

$r=-3$

Oct 2-12:29 PM

Answer each of the following.

13. Janine has job offers at two companies. One company offers a starting salary of $28,000 with a raise of $3000 each year. The other company offers a starting salary of $36,000 with a raise of $2000 each year.

a. After how many years would Janine's salary be the same with both companies?

b. What would that salary be?

$28000+3000x=36000+2000x$

$-2000x \quad\quad -2000x$

$28000+1000x=36000$

$-28000 \quad\quad -28000$

$\frac{1000x}{1000}=\frac{8000}{1000}$

$x=8$

Oct 2-11:10 AM

14. Xian and his cousin both collect stamps. Xian has 56 stamps, and his cousin has 80 stamps. Both have recently joined different stamp-collecting clubs. Xian's club will send him 12 new stamps per month, and his cousin's club will send him 8 new stamps per month.

a. After how many months will Xian and his cousin have the same number of stamps?

b. How many stamps will that be?

$56+12m=80+8m$

$-8m \quad\quad -8m$

$56+4m=80$

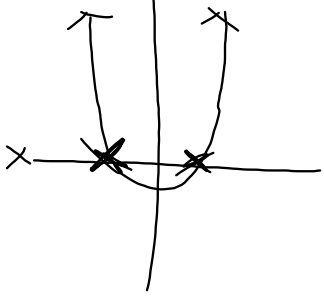
$-56 \quad\quad -56$

$\frac{4m}{4}=\frac{24}{4}$

$m=6$

Oct 2-11:11 AM

Zero Product Property



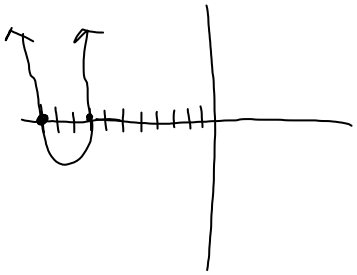
Oct 2-12:42 PM

$(x+8)(x+11)=0$

$x+8=0$ $\quad x+11=0$

$-8\ -8$ $\quad -11\ -11$

$x=-8$ $\quad x=-11$



Oct 2-12:43 PM

$(x-2)(x+3)=0$

$x=2 \quad x=-3$

$x-2=0$ $\quad x+3=0$

$+2\ +2$ $\quad -3\ -3$

$x=2$ $\quad x=-3$

Oct 2-12:47 PM

$(x+9)(4x+1)=0$

$x=-9$

$4x+1=0$

$-1\ -1$

$\frac{4x}{4}=\frac{-1}{4}$

$x=-\frac{1}{4}$

Oct 2-12:48 PM

$(3x-2)(5x+7)=0$

$\frac{2}{3}, -\frac{7}{5}$

$3\left(\frac{2}{3}\right)-2 \quad 5\left(-\frac{7}{5}\right)+7$

$0 \quad 0$

Oct 2-12:50 PM

$x(x-7)=0$

$0, 7$

Oct 2-12:52 PM

$x(x-3)(2x+5)(x+5)=0$

$0, 3, -\frac{5}{2}, -5$

$2x+5=0$

$-5 \quad -5$

$\frac{2x}{2} = \frac{-5}{2}$

Oct 2-12:53 PM

$5(-v-5)\cdot 3(v-8)=0$

$\frac{5}{-1}$

-5

$v=8$

$-v-5=0$

$+5 \quad +5$

$-v=5$

$v=-5$

Oct 2-12:54 PM

4) $(x+2)(x-17)=0$

$x=-2 \quad x=17$

Oct 2-12:56 PM

5

a) $(x+6)(x-6)=0$ $-6, 6$

b $(x+6)(x+6)$ $-6, -6$

c $(x-6)(x-6)$ $6, 6$

d $(2x+12)(2x-12)=0$ $-6, 6$

e $(2x-12)(x-12)$ $6, 12$

f $(x+12)(x-12)=0$ $-12, 12$

g $(x+12)(x-6)=0$ $-12, 6$

Oct 2-12:56 PM

6)

Ted

$(3x-2)(x+5)=0$

$\frac{2}{3}, -5$

Maggie

$(3x-2)(x+5)=0$

Oct 2-12:59 PM

p97 2.5

$\frac{-5x}{-5} > \frac{10}{-5}$

$x < -2$

Flip the sign of the inequality if coefficient is negative!

Oct 2-1:01 PM