Unit 5 Introduction: Solving Proportions

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Date _____ Block _____

- Go to the following link: _http://www.youtube.com/watch?v=VgSl_YzTXlU
- Follow the teacher and do example 1 with him in the video.
- Do the rest of the problems below to practice solving proportions.

Find the value of x in each proportion. Show all work and circle your final answer.

1. $\frac{3}{8}=\frac{x}{40}$

$8x=120$

$x=\frac{120}{8}$

$x=15$

2. $\frac{x}{8}=\frac{5}{12}$

$12x=40$

$x=\frac{40}{12}$

$x=\frac{10}{3}$ or $3.\overline{3}$

3. $\frac{6}{x}=\frac{3}{14}$

$3x=84$

$x=\frac{84}{3}$

$x=28$

4. $\frac{5x}{6}=\frac{4}{3}$

$15x=24$

$x=\frac{24}{15}$

$x=\frac{8}{5}$ or 1.6

5. $\frac{15}{2x+1}=\frac{5}{3}$

$5(2x+1)=45$

$10x+5=45$

$10x=40$

$x=4$

6. $\frac{x+2}{5}=\frac{x+1}{4}$

$4(x+2)=5(x+1)$

$4x+8=5x+5$

$-4x \quad -4x$

$8=x+5$

$-5 \quad -5$

$x=3$

7. $\frac{x+5}{3}=\frac{x+9}{4}$

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

$4x+20=3x+27$

$-3x \quad -3x$

$x+20=27$

$-20 \quad -20$

$x=7$

8. $x:4=7:3$

$\frac{x}{4}=\frac{7}{3}$

$3x=28$

$x=\frac{28}{3}$

$x=\frac{28}{3}$ or 9.3

9. $\frac{x+1}{8}=\frac{2}{3}$

$3(x+1)=16$

$3x+3=16$

$-3 \quad -3$

$3x=13$

$x=\frac{13}{3}$ or 4.3

10. $\frac{12}{x}=\frac{8}{x-2}$

$12(x-2)=8x$

$12x-24=8x$

$-8x \quad -8x$

$4x-24=0$

$+24 \quad +24$

$4x=24$

$x=6$

11. $\frac{x-2}{3}=\frac{4}{4}$

$4(x-2)=12$

$4x-8=12$

$+8 \quad +8$

$4x=20$

$x=5$

12. $\frac{8x-3}{2}=\frac{5}{3}$

$3(8x-3)=10$

$24x-9=10$

$+9 \quad +9$

$24x=19$

$x=\frac{19}{24}$ or $.79$

Review of Algebra I: Solving Equations

- Go to the following link: http://www.youtube.com/watch?v=JIDRfQlTm48
- Follow the teacher and do the examples 1-4 with her in the video
- Do the rest of the problems below to practice solving equations.

Find the value of the variable in each equation. Show all work and circle your final answer.

1. $8x + 5 = 2x - 7$

$-2x \quad -2x$

$6x + 5 = -7$

$-5 \quad -5$

$\frac{6x}{6} = \frac{-12}{6}$

$x = -2$

2. $5s + 60 = 10s$

$-5s \quad -5s$

$\frac{60}{5} = \frac{5s}{5}$

$s = 12$

3. $5(2x + 1) = 10x$

$10x + 5 = 10x$

$-10x \quad -10x$

$5 = 0$

No solution or $\emptyset$

4. $6x + 2 = 2(3x + 1)$

$6x + 2 = 6x + 2$

$-6x \quad -6x$

$2 = 0 + 2$

$2 = 2$

∞ solutions

5. $-20 = -4x - 6x$

$\frac{-20}{-10} = \frac{-10x}{-10}$

$x = 2$

6. $8x - 2 = -9 + 7x$

$-7x \quad -7x$

$x - 2 = -9$

$+2 \quad +2$

$x = -7$

7. $4m - 4 = 4m$

$-4m \quad -4m$

$-4 = 0$

$\emptyset$

8. $6 = 1 - 2n + 5$

$6 = -2n + 6$

$-6 \quad -6$

$\frac{0}{2} = \frac{-2n}{-2}$

$n = 0$

9. $12 = -4(-6x - 3)$

$12 = 24x + 12$

$-12 \quad -12$

$\frac{0}{24} = \frac{24x}{24}$

$x = 0$

10. $-(7 - 4x) = 9$

$-7 + 4x = 9$

$+7 \quad +7$

$\frac{4x}{4} = \frac{16}{4}$

$x = 4$

11. $5n + 34 = -2(1 - 7n)$

$5n + 34 = -2 + 14n$

$-5n \quad -5n$

$34 = -2 + 9n$

$+2 \quad +2$

$36 = 9n$

$n = 4$

12. $2(4x - 3) - 8 = 4 + 2x$

$8x - 6 - 8 = 4 + 2x$

$8x - 14 = 4 + 2x$

$-2x \quad -2x$

$6x - 14 = 4$

$+14 \quad +14$

$6x = 18$

$x = 3$