# Warm Up

Solve:

1. $17 = p - 3 - 3p$

$17 = -2p - 3$

$+3 \quad +3$

$\frac{20}{-2} = \frac{-2p}{-2}$

$p = -10$

2. $2(8 + 4c) = 32$

$16 + 8c = 32$

$-16 \quad -16$

$\frac{8c}{8} = \frac{16}{8}$

$c = 2$

# Homework Check:

**10.** 4

**12.** 7

**14.** 10

**16.** 4

**18.** 13

**20.** $167t + 19t + 16 = 1132$; 6 tickets

**22.** 3

**24.** 2

**26.** $-3.25$ or $-3\frac{1}{4}$ or -13/4

**28.** 2

**46.** $28\frac{1}{2}$ or 57/2

**47.** $3\frac{5}{16}$ or 53/16

**49.** 1.5 or $1\frac{1}{2}$ or 3/2

**52.** 9

**55.** $15

**60.** 60 mi

# Solving equations with variables on both sides

1. Simplify on both sides of the equal sign
2. Move one variable to the other side by adding/subtracting
3. Solve like a two step equation

$4 + 5x = 12x - 10$

$-5x \quad -5x$

$4 = 7x - 10$

$+10 \quad +10$

$\frac{14}{7} = \frac{7x}{7}$

$x = 2$

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

$= 5x + 15 - 3$

$3x + 9 = 5x + 12$

$-3x \quad -3x$

$9 = 2x + 12$

$-12 \quad -12$

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

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

$2x + 2(3x - 4) = 3x + 2$

$2x + 6x - 8$

$8x - 8 = 3x + 2$

$-3x \quad -3x$

$5x - 8 = 2$

$5x = 10$

$x = 2$

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

$3x - 15 = 2x + 4$

$-2x \quad -2x$

$x - 15 = 4$

$\boxed{x = 19}$

$x + 2 = x + 4$

$-x \quad -x$

$2 = 4$

No Solution

$24 - 6r = 6(4-r)$

$24 - 6r = 24 - 6r$

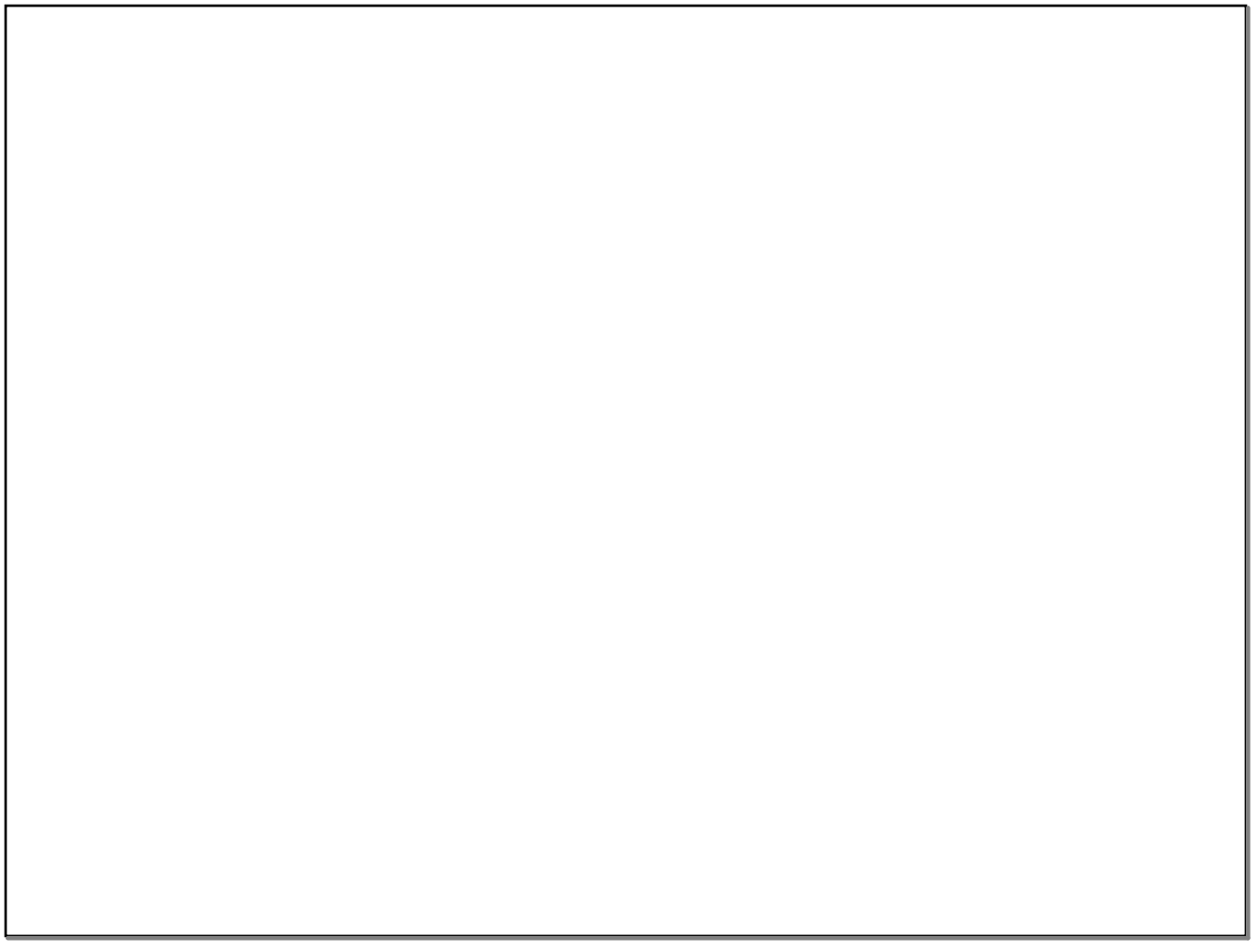
$+6r \quad +6r$

$24 = 24$

All Real #'s

UPS charges $7 for the first pound, and $0.20 for each additional pound. FedEx charges $5 for the first pound and $0.30 for each additional pound. How many pounds, p, will it take for UPS and FedEx to cost the same?

$7+0.20x=5+0.30x$

$7+0.20(x-1)=5+0.30(x-1)$

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