Warm-up: Solve the equations for x.

1. $7x = 56$

$\frac{7}{7} \quad \frac{7}{7}$

$x = 8$

2. $9x - 8 = 10$

$+8 \quad +8$

$\frac{9x}{9} = \frac{18}{9}$

$x = 2$

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

$\cdot -4 \quad -4$

$20 = x$

$x = 20$

4. $4x = 2x + 16$

$-2x \quad -2x$

$\frac{2x}{2} = \frac{16}{2}$

$x = 8$

$5 = 8$

$8 = 8$

Key Words & Concepts

Solution - The value of x that makes the equation true.

All Real Numbers - Ex: $8 = 8$ ANY VALUE will make the equation true

No Solution – Ex: $5 = 8$ NO value of x will make the equation true.

Solving Equation Steps -

1. Distribute $3(2x+4)$
2. Combine-like terms $2x - 3 + 5x + 7$ $7x + 4$
3. Get x's on the same side
4. Get non-x's on the same side
5. Get x alone

Solving Equations Practice

Example 1: $-(x-2)=x+6$

$-x+2=x+6$

$+x \quad +x$

$2=2x+6$

$-6 \quad -6$

$-4=2x$

$\frac{-4}{2}=\frac{2x}{2}$

$-2=x$

$x=-2$

Example 2: $-2(x+3)=4x+8$

Example 3: $\frac{1}{3}(27x-15)+2=2x+7+7x$

$9x-5+2=2x+7+7x$

$9x-3=9x+7$

$-9x \quad -9x$

$-3=7$

N.S.

Example 4: $5+\frac{3}{4}(8x-4)=26$

Example 5: $\frac{2}{5}(25x-15)+2=3x-4+7x$

$10x-6+2=3x-4+7x$

$10x-4=10x-4$

$-10x \quad -10x$

$-4=-4$

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Example 6: $\frac{4x-6}{3} = -10$ · 3

HW #4

$4x - 6 = -30$

$+6 \quad +6$

$\frac{4x}{4} = \frac{-24}{4}$

$x = -6$

Example 7: $\frac{2x}{4} - 7 = -11$

$+7 \quad +7$

HW #3 & #5

$4 \cdot \frac{2x}{4} = -4 \cdot 4$

$\frac{2x}{2} = \frac{-16}{2}$

$x = -8$

Example 8: $\frac{5m-10}{8} = \frac{5m+10}{4}$ · 8

HW #6

$4 \cdot 5m - 10 = \frac{40m+80}{4} \cdot 4$

$20m - 40 = 40m + 80$

$-20m \quad -20m$

$-40 = 20m + 80$

$-80 \quad -80$

$\frac{-120}{20} = \frac{20m}{20}$

$-6 = m$

$m = -6$

Example 9: $\frac{2x}{2 \cdot 3} + \frac{x}{2} \cdot \frac{3}{3} = 7$

HW #7

$\frac{4x}{6} + \frac{3x}{6} = 7$

$6 \cdot \frac{7x}{6} = 7 \cdot 6$

$\frac{7x}{7} = \frac{42}{7}$

$x = 6$

Sec1H	Notes 1-1 Solving Equations	Unit 1

Perimeter, Circumference, Area, Volume Review

Perimeter- Add up all the sides

Circumference - Perimeter of a circle

Area - (2D) $\square = b \cdot h$ $\triangle = \frac{1}{2} b h$

Volume - (3D) The area inside a 3D figure.

Example 9: Set up an expression for the area & perimeter for each of the following.