

Work sheet before midterm

$$\begin{aligned} 1) \quad -3(5-t) &= 18 \\ -15 + 3t &= 18 \\ +15 + 3t + 15 & \\ 3t &= 33 \\ \frac{3t}{3} &= \frac{33}{3} \end{aligned}$$

$$\boxed{t = 11}$$

2) $t =$ test scores

$$\frac{87 + 84 + 85 + x}{4} = 90.4$$

$$\begin{aligned} 87 + 84 + 85 + x &= 360 \\ 256 + x &= 360 \\ -256 & \quad -256 \end{aligned}$$

$$\boxed{x = 104}$$

3) $a =$ allowance

$$\frac{1}{2}a = 5(1.25)$$
$$2 \cdot \frac{1}{2}a = 0.25 \cdot 2$$

$$\boxed{a = 12.50}$$

4) $10z - 5 + 3z = 8 - z$

$$13z - 5 = 8 - z$$

$$+z \quad \quad \quad +z$$

$$14z - 5 = 8$$

$$+5 = +5$$

$$14z = 13$$

$$\frac{14z}{14} = \frac{13}{14}$$

$$z = \frac{13}{14}$$

$$\frac{13}{14}$$

5. $3(g-1) + 7 = 3g + 4$

$$3g - 3 + 7 = 3g + 4$$

$$3g + 4 = 3g + 4$$

identity

all real

numbers will

solve

6. $17 - 20g = (-13 - 5g)4$

$$17 - 20g = -54 - 20g$$

$$+154 \quad \quad \quad +154$$

$$71 - 20g = -20g$$

$$+20g \quad \quad \quad +20g$$

$$71 \neq 0$$

No solution

7. $r + 1.5r = 850$

$$2.5r = 850$$

$$\frac{2.5r}{2.5} = \frac{850}{2.5}$$

$$r = 340$$

$$510$$

8. $15 + 2.05g = 2.35g$

$$-2.05g \quad -2.05g$$

$$15 = 0.30g$$

$$\frac{15}{.30} = \frac{.30g}{.30}$$

$$50 = g$$

$$9. \quad x = 9 - 3y \quad x = -3, 6, 12$$

$$\frac{x-9}{-3} = \frac{-3y}{-3}$$

$$-\frac{x}{3} + 3 = y$$

$$x = -3 \quad -\frac{(-3)}{3} + 3 = \frac{3}{3} + 3 = 4$$

$$x = 6 \quad -\frac{6}{3} + 3 = -2 + 3 = 1$$

$$x = 12 \quad -\frac{12}{3} + 3 = -4 + 3 = -1$$

$$10. \quad \frac{x-3}{y} = x \quad \text{solve for } x$$

$$\frac{x-3}{y} = x \cdot y$$

$$\frac{x-3}{y} = xy$$

$$\frac{x-3}{y} = xy + 3$$

$$-xy - xy$$

$$x - xy = 3$$

$$x(1-y) = 3$$

$$x = \frac{3}{1-y}$$

12. radius of
circle with
circumference
of 15.

$$2\pi r = C$$

$$2(3.14)r = 15$$

$$\frac{6.28r}{6.28} = \frac{15}{6.28}$$

$$r = \frac{2.29}{2.4}$$

$$11) \quad z = \left(\frac{x+y}{3}\right)w \quad \text{solve for } y$$

$$\frac{z}{w} = \left(\frac{x+y}{3}\right)$$

$$3 \frac{z}{w} = x+y$$

$$x + \frac{3z}{w} = x+y$$

$$\frac{3z}{w} - x = y$$