Name: Key

UNIT 3 ASSESSMENT REVIEW PreAP

SOLVING EQUATIONS

Solve the following equations. Check your work with a calculator.

1. $\frac{-4}{y+2} = \frac{6}{y-4}$

$-4y+16 = 6y+12$

$\frac{4}{10} = \frac{10y}{10}$

$0.4 = y$

2. $3x-(2x-5) = -2x+9-4x$

$3x-2x-5 = -2x+9-4x$

$x-5 = -6x+9$

$+6x \quad +5 \quad +6x+5$

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

$x = 2$

3. $\frac{3}{4}(8x-16) = \frac{1}{5}(40-10x)$

$6x-12 = 8-2x$

$+2x \quad +12 \quad +12 \quad +2x$

$\frac{8}{8}x = \frac{20}{8}$

$x = 2.5$ or $\frac{5}{2}$

4. $-3(3-x)+4(x-2) = 8x-5$

$-9+3x+4x-8 = 8x-5$

$7x-17 = 8x-5$

$-7x \quad +5 \quad -7x+5$

$-12 = x$

5. $5(3x-4)-3.5 = 7x-2.5$

$15x-20-3.5 = 7x-2.5$

$15x-23.5 = 7x-2.5$

$-7x+23.5 \quad -7x+23.5$

$\frac{8}{8}x = \frac{21}{8}$

$x = 2.625$

6. $\frac{3}{5}x+7 = 10$

$-7 \quad -7$

$\left(\frac{5}{3}\right)\frac{3}{5}x = 3\left(\frac{5}{3}\right)$

$\frac{3}{5} \quad \frac{5}{3}$ OR

$x = 5$

Tell what was performed for each step

7.

Step 1:	$6m + 8 = m + 23$	step 1: Subtract m from each side
Step 2:	$5m + 8 = 23$	step 2: Subtract 8 from both sides
Step 3:	$5m = 15$	step 3: Divide both sides by 5
Step 4:	$m = 5$	step 4: Answer

Simplify:

8. $\frac{2}{3}(6x-9y)+\frac{3}{4}(-8x+4y)$

$4x-6y-6x+3y$ CLT

$\boxed{-2x-3y}$

9. $Ax+By=C$, *Solve for y*

$-Ax \quad -Ax$

$\frac{By}{B} = \frac{C-Ax}{B}$

$\boxed{y = \frac{C-Ax}{B}}$

10. *If (x, -5) is a solution to* $3x+4y=-29$,
What is the value of x?

$3x+4(-5)=-29$ simplify

$3x-20=-29$

$+20 \quad +20$

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

$\boxed{x=-3}$

11. *Olivia purchases a DVD movie priced at x dollars. The sales tax is 6.5%.*

a. *Write an expression to represent the total cost of the movie.*

$x + 0.065x$

b. *If the movie is priced at $21.99, what is the total price of the movie, including tax?*

$T = (21.99) + 0.065(21.99)$

$\boxed{T = \$23.42}$

12. *A model airplane files 18 feet in 2 seconds. How many feet does it fly in one hour?*

$\frac{ft}{sec}$ $\quad \frac{18}{2} = \frac{x}{3600}$

$2x = 64800$

$x = \boxed{32,400 \text{ ft}}$

1 hr = 60 min

1 min = 60 sec.

13. *Coach Torres wants to purchase football t-shirts for his team. The printing company charges $300 dollars for the first 30 t-shirts. The charge for additional shirts is six times the difference between the number of shirts and 30.* + 6 · (t − 30)

a. *Write an equation that Coach Torres can use to determine t, the number of shirts he can buy if he spends c dollars.*

$$C = 300 + 6(t-30)$$

b. *If Coach Torres has $660 in his budget, how many t-shirts can he buy?* C = 660

$660 = 300 + 6(t-30)$ CLT

$660 = 300 + 6t - 180$

$660 = 120 + 6t$

$-120 \quad -120$

$\frac{540}{6} = \frac{6t}{6}$

$90 = t$

90 t-shirts

14. In a triangle, the second angle is 15° more than the first and the third is 24° more than the second. Find the measure of all three angles.

Angles

1. x

2. $x + 15$

3. $(x+15) + 24$

$x + 39$

1st 2nd 3rd

$x + (x+15) + (x+39) = 180$ CLT

$3x + 54 = 180$

$-54 \quad -54$

$\frac{3x}{3} = \frac{126}{3}$

$x = 42$

1. **42°**
2. $(42+15) =$ **57°**
3. $(42+39) =$ **81°**