Definition & Properties of Equations

Answer

Addition & Subtraction Properties

$$x-4=6$$
 $x-4+4=6+4$
 $x=10$

$$x+5=12 \ x+5-5=12-5 \ x=7$$

$$x-14=43 \ x-14+14=43+14 \ x=57$$

$$x + 72 = 49$$
 $x + 72 - 72 = 49 - 72$
 $x = -23$

$$\begin{array}{c}
 -23 + x = 39 \\
 -23 + x + 23 = 39 + 23 \\
 x = 62
\end{array}$$

$$48 + x = -63
48 + x - 48 = -63 - 48
x = -111$$

Nultiplication & Division Properties

$$extstyle 0.5x = 15 \ 0.5x imes 2 = 15 imes 2 \ x = 30$$

$$3x = 15$$

$$\frac{3x}{3} = \frac{15}{3}$$

$$x = 5$$

$$iggraphi -0.25x = 12 \ -0.25x imes (-4) = 12 imes (-4) \ x = -48$$

$$7x = -84$$

$$\frac{7x}{7} = -\frac{84}{7}$$

$$x = -12$$

Challenge

$$0.1x imes 10 = -103 imes 10 \ x = -1030$$

打卡小结

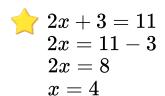
这两天的打卡,小朋友会从Math6方程的定义和解简单方程开始学习,再过渡到移项、分数方程的内容,能够帮助更加顺利地衔接PreA的复杂方程和应用题学习。



Move Terms to Solve Equations

Answer

Move Like Terms Together



$$x + 2 = 3x - 6$$

$$2 + 6 = 3x - x$$

$$8 = 2x$$

$$x = 4$$

$$5x - 4 = 16$$
 $5x = 16 + 4$
 $5x = 20$
 $x = 4$

$$4x - 3 = x + 6
4x - x = 6 + 3
3x = 9
x = 3$$

$$278 + 4x = -226 - 20x \ 4x + 20x = -226 - 278 \ 24x = -504 \ x = -21$$

Challenge

$$4050(x-3) = 2025(x+1) + 6075$$

Method 1

$$rac{1}{2025} imes 4050(x-3) = rac{1}{2025} imes 2025(x+1) + rac{1}{2025} imes 6075 \ 2(x-3) = x+1+3 \ 2x-x = 1+3+6 \ x = 10$$

Method 2

$$4050x - 12150 = 2025x + 2025 + 6075$$
 $4050x - 2025x = 2025 + 6075 + 12150$
 $2025x = 20250$
 $x = 10$



打卡小结

通过这两天的打卡,小朋友已经能够理解Math6移项解方程的重要思想,这个方法的易错点在于"变号",小朋友解题的过程中需要牢记并养成验算的好习惯。

Proportional Equations

Answer

Solve Proportional Equations

$$\frac{2x}{3} = \frac{8}{3}$$
$$3 \times \frac{2x}{3} = 3 \times \frac{8}{3}$$
$$2x = 8$$
$$x = 4$$

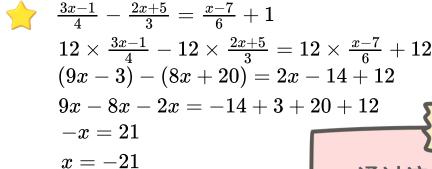
$$egin{array}{c} -rac{5x}{12} = rac{11}{13} \ -156 imes rac{5x}{12} = 156 imes rac{11}{13} \ -65x = 132 \ x = -rac{132}{65} \end{array}$$

$$rac{4x}{51} = -rac{19}{36} \ 612 imes rac{4x}{51} = -612 imes rac{19}{36} \ 48x = -323 \ x = -rac{323}{48}$$

$$egin{array}{c} rac{3x-1}{24} = rac{x+3}{108} \ 216 imes rac{3x-1}{24} = 216 imes rac{x+3}{108} \ 9(3x-1) = 2(x+3) \ 27x-9 = 2x+6 \ 27x-2x = 9+6 \ 25x = 15 \ x = rac{3}{5} \end{array}$$

$$rac{-x-5}{6} = rac{9-2x}{216} \ 216 imes rac{-x-5}{6} = 216 imes rac{9-2x}{216} \ 36(-x-5) = 9-2x \ -36x-180 = 9-2x \ -180-9 = 36x-2x \ -189 = 34x \ x = -rac{189}{34}$$

Challenge



打卡小结



通过这两天的打卡,小朋友已经能够理解Math6方程的移项思想和不同类型分数方程的解法,能够帮助更加顺利地过渡PreA的方程和应用学习。

Word Problems

Answer



A farm has ducks (2 legs each) and cows (4 legs each). There are 35 heads and 94 legs in total. How many cows are there?

Assume there are x cows, then there are (35-x) ducks.

$$2(35 - x) + 4x = 94$$
$$x = 12$$



Alex has 10¢ coins and 25¢ coins. There are 120 coins altogether, worth \$19.80 total. How many 25¢ coins are there?

Assume there are x 25¢ coins, then there are (120-x) 10¢ coins.

$$0.1(120 - x) + 0.25x = 19.8$$

 $x = 52$



A parking lot has bicycles (2 wheels each) and cars (4 wheels each). There are 50 vehicles and 160 wheels in total. How many cars are parked?

Assume there are x cars, then there are (50-x) bicycles.

$$2(50 - x) + 4x = 160$$
$$x = 30$$



A theater sold adult tickets (\$25 each) and child tickets (\$12 each). They sold 300 tickets and collected \$5,758. How many adult tickets were sold?

Assume x adult tickets were sold, then (300-x) child tickets were sold.

$$25x + 12(300 - x) = 5758$$
$$x = 166$$



A stand sold regular lemonade (\$1.25) and strawberry lemonade (\$1.75). They sold 132 cups and made \$182.5. How many cups of regular lemonade were sold?

Assume x cups of regular lemonade were sold, then (132-x) cups of strawberry lemonade were sold.

$$1.25x + 1.75(132 - x) = 182.5$$
$$x = 97$$



A bakery sold croissants (\$2.40 each) and Danish pastries (\$3.60 each). They sold 150 pastries and earned \$420.00. How many croissants were sold?

Assume x croissants were sold, then (150x) Danish pastries were sold.

$$2.4x + 3.6(150 - x) = 420$$

 $x = 100$



Challenge



A city implements tiered pricing for residential electricity usage, with the following rates:

Tier 1: Monthly usage up to 500 kWh, charged at \$0.12/kWh

• Tier 2: Monthly usage over 500 kWh and up to 1,000 kWh, the excess portion charged at \$0.15/kWh

Tier 3: Monthly usage over 1,000 kWh, the excess portion charged at \$0.20/kWh

If Tom's family paid \$177 for electricity in a month, what was their total electricity consumption (in kWh)?

The cost of Tier 1 is 500 * 0.12 = 60 dollars.

The cost of Tier 2 is 500 * 0.15 = 75 dollars.

So, combined cost for Tier 1 and Tier 2 (first 1000 kWh) is 60+75=135 dollars.

Since \$177 > \$135, the total electricity consumption of Tom's family is over 1,000 kWh. Assume the total electricity consumption is x kWh.





x = 1210

溪恭喜小朋友们坚持完成三周打卡练 习! 相信大家在 Math6 代数部分已 打 经有了显著进步。

卡 接下来我们将用一节【不等式主题公 总 开课】,帮助孩子搞定 Math6 最后 结 一块代数难点,顺利衔接 PreA! 欢迎感兴趣的家长扫码咨询公开课,

仅需 \$1,名额有限,先到先得~