

Name: KeyWeek of: 9VIEW

SHOW ALL WORK!!!!

<p>1. Simplify the expression using a single exponent.</p> $\frac{5^7 \cdot 5^2}{5^3} = \frac{5^9}{5^3} = 5^6$	<p>2. Simplify the expression.</p> $\begin{aligned} & -4(x+6) - 7(2x-4) \\ & -4x + -24 = 14x + 28 \\ & \underline{-18x + 4} \end{aligned}$
<p>3. You want to buy a shirt that costs \$24. It is 25% off the original price. Then you have to pay 7% tax. If you pay with a \$20 bill how much change will you get back?</p> <p>25% of 24 = 6 24 - 6 = 18 18 × .07 = 1.26 18 + 1.26 = \$19.26</p> <p>20.00 - 19.26 <u>\$.74</u></p>	<p>4. Solve the equation.</p> $\begin{aligned} \frac{4}{5}(10x + 15) &= -20 \\ 8x + 12 &= -20 \\ 8x &= -32 \\ x &= -4 \end{aligned}$

Standard: Solve linear equations with rational number coefficients fluently, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. Represent real-world problems using linear equations and inequalities in one variable and solve such problems. (2-2 and 2-3 in book)

<p>5. Solve the equation.</p> $\begin{aligned} 6 - 6x &= -4x - 2 \\ 6 &= 2x - 2 \\ +2 & \quad +2 \\ \hline 8 &= 2x \\ \frac{8}{2} &= \frac{2x}{2} \\ x &= 4 \end{aligned}$	<p>6. Solve the equation.</p> $\begin{aligned} 6 - 4z &= -2z + 2 \\ +4z & \quad +4z \\ \hline 6 &= 2z + 2 \\ -2 & \quad -2 \\ \hline 4 &= 2z \\ \frac{4}{2} &= \frac{2z}{2} \\ z &= 2 \end{aligned}$
<p>7. Solve the equation</p> $\frac{1}{3}(x+6) = \frac{1}{2}(x-4)$ $\begin{aligned} 6\left(\frac{1}{3}x + 2\right) &= 6\left(\frac{1}{2}x - 2\right) \\ 2x + 12 &= 3x - 12 \\ -2x & \quad -2x \\ \hline 12 &= x - 12 \\ +12 & \quad +12 \\ \hline x &= 24 \end{aligned}$	<p>8. Solve the equation</p> $\begin{aligned} 3(x+2) &= 2(x+5) + 7x \\ 3x + 6 &= 2x + 10 + 7x \\ 3x + 6 &= 9x + 10 \\ -3x & \quad -3x \\ \hline 6 &= 6x + 10 \\ -10 & \quad -10 \\ \hline -4 &= 6x \\ \frac{-4}{6} &= \frac{6x}{6} \\ x &= -\frac{2}{3} \end{aligned}$

9. Solve the equation

$$\begin{aligned}
 -3x - 4 &= 2x - 12 + x \\
 -3x - 4 &= 3x - 12 \\
 +3x & \quad +3x \\
 \hline
 -4 &= 6x - 12 \\
 +12 & \quad +12 \\
 \hline
 8 &= 6x \\
 \frac{8}{6} &= \frac{6x}{6} \\
 x &= \frac{4}{3}
 \end{aligned}$$

10. Solve the equation

$$\begin{aligned}
 4x - 2(x - 2) &= -9 + 5x - 8 \\
 4x - 2x + 4 &= -17 + 5x \\
 2x + 4 &= -17 + 5x \\
 -2x & \quad -2x \\
 \hline
 4 &= -17 + 3x \\
 +17 & \quad +17 \\
 21 &= 3x \\
 x &= 7
 \end{aligned}$$

Application Problems: Write and solve an equation for each problem.

11.

What is Peter's number if you subtract 12 from the number and multiply the difference by -3 and it equals -54.

$$\begin{aligned}
 -3(x - 12) &= -54 \\
 -3x + 36 &= -54 \\
 -3x &= -90 \\
 x &= 30
 \end{aligned}$$

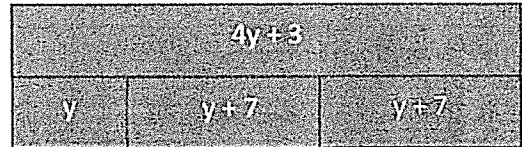
12. Maria and Liam worked in a banquet hall. Maria earns 20% commission on her food sales. Liam earns a weekly salary of \$625 plus a 10% commission on his food sales. What amount of food sales will result in Maria and Liam earning the same amount for the week?

$$\begin{aligned}
 .2x &= .1x + 625 \\
 -.1x & \quad -.1x \\
 \hline
 .1x &= 625 \\
 x &= \$6,250
 \end{aligned}$$

13. Cynthia earns \$680 in commission and is paid \$10.25 per hour. Jack earn \$410 in commission and is paid \$12.50 per hour. Write and solve an equation to determine how many hours they would need to work to make the same amount of money.

$$\begin{aligned}
 680 + 10.25h &= 410 + 12.5h \\
 680 &= 410 + 2.25h \\
 270 &= 2.25h \\
 \frac{270}{2.25} &= \frac{2.25h}{2.25} \\
 h &= 120
 \end{aligned}$$

14. Write an equation for the bar diagram. Solve the equation to find the value of y.



$$\begin{aligned}
 4y + 3 &= y + y + 7 + y + 7 \\
 4y + 3 &= 3y + 14 \\
 y + 3 &= 14 \\
 y &= 11
 \end{aligned}$$

Mental Math: Solve each problem mentally and explain your reasoning.

15.

$$49 \times 5 = 245$$

$$50 \times 5 = 250 \quad 1 \times 5 = 5 \quad 250 - 5 = 245$$

20.

$$124 \div 4 = 31$$

$$120 \div 4 = 30 \quad 4 \div 4 = 1$$

Extra Practice: Reflex, Pearson Realize: 2-2 Math XL, 2-3 Math XL