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DATE _____

**Solving & Writing Equations** page 1 of 2

For these problems, if an operation is in parentheses (), do it first. Otherwise, work from left to right.

1 Find the answer to each problem below. Show your work.

ex $25 + (2 \times 6) = 37$

$$2 \times 6 = 12$$

$$25 + 12 = 37$$

$(20 \div 4) \times 3 = \square$

$6 + (15 \div 3) = \square$

$12 \times (2 + 3) = \square$

$(12 + 16) \div 7 = \square$

$(14 \times 3) \div 6 = \square$

$63 \div (9 \times 1) = \square$

2 Evaluate each equation to see if it makes sense. Add parentheses to those equations that need them.

$25 = 5 \times 3 + 10$

$5 \times 4 \times 3 = 4 \times 3 \times 5$

$12 - 6 \times 2 = 129 - 129$

$100 \div 2 + 3 = 20$

$27 = 9 \times 6 \div 2$

$3 + 5 \times 8 = 43$

3 Find the values of the variables.

$z \times 10 = 700 \quad z = \underline{\hspace{2cm}}$

$18 = 3x \quad x = \underline{\hspace{2cm}}$

$15 + (3 \times 3) = 6y \quad y = \underline{\hspace{2cm}}$

$120 \div m = 20 \quad m = \underline{\hspace{2cm}}$

(continued on next page)

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Solving & Writing Equations page 2 of 2**4** Write and solve an equation for each of the word problems below:

ex Ebony had 45 stickers. She got 3 times that many stickers for her birthday. She gave some of the stickers to her sister. Now Ebony has 120 stickers. How many stickers did Ebony give to her sister?

$$(45 + (3 \times 45)) - s = 120 \quad 180 - s = 120 \quad 180 - 120 = s \quad s = 60$$

Ebony gave 60 stickers to her sister.

a Mrs. Grace had 75 erasers. She divided the erasers evenly among all of her students. Each student got 3 erasers and there were 6 erasers left over. How many students are there in Mrs. Grace's class?

b Bottled water is on sale for \$13 a case. Jon and his mom got several cases for the soccer team. They also got a new soccer ball for Jon that cost \$19. They spent \$84 in all. How many cases of bottled water did they buy?

c Mrs. Jones brought 3 of the cases of bottled water to the soccer tournament. There were 24 bottles in each case. When they packed up to go home, there were still 16 bottles of water left. How many of the bottles of water did the team drink at the tournament?

5 CHALLENGE Solve these algebra puzzles.

$3 \times \bigcirc = 27$ $\square \div \bigcirc = 4$ $(\bigcirc + \text{pentagon}) \times \square = 360$
$\bigcirc = \underline{\quad}$ $\square = \underline{\quad}$ $\text{pentagon} = \underline{\quad}$

$200 \div \bigcirc = 20$ $\bigcirc \times \square = 600$ $(\square - \bigcirc) \div \text{pentagon} = 58$
$\bigcirc = \underline{\quad}$ $\square = \underline{\quad}$ $\text{pentagon} = \underline{\quad}$

6 Circle the word to show whether each equation below is true or false.

$47 = 3n + 2$ if the value of n is 15.	True	False
$4z \div (3 + 3) = 10$ if the value of z is 12.	True	False