

1. Find the property that each equation shows.

Write the equation in the correct box.

$$11 \times (4 \times 6) = (11 \times 4) \times 6$$

$$14 + 27 + 18 = 27 + 14 + 18$$

$$15 + (12 + 11) = (15 + 12) + 11$$

$$18 \times 2 = 2 \times 18$$

$$5 \times 1 = 5$$

$$72 + 0 = 72$$

Commutative Property of Multiplication	Associative Property of Addition	Identity Property of Addition
$18 \times 2 = 2 \times 18$	$15 + (12 + 11) = (15 + 12) + 11$	$72 + 0 = 72$
Commutative Property of Addition	Associative Property of Multiplication	Identity Property of Multiplication
$14 + 27 + 18 = 27 + 14 + 18$	$11 \times (4 \times 6) = (11 \times 4) \times 6$	$5 \times 1 = 5$

2. For numbers 2a-2d, select True or False for each statement.

2a. 50 is  $\frac{1}{10}$  of 500.  True  False

2b. 290 is 10 times as much as 2,900.  True  False

2c. 6,500 is 10 times as much as 65.  True  False

2d. 700 is 10 times as much as 70.  True  False

GO ON 

*6 pts possible*  
*1 point for correct entries in each of the six boxes*

*4 pts*

*1 point per Q*

3. Select other ways to write 304,672. Mark all that apply.

$(3 \times 100,000) + (4 \times 1,000) + (6 \times 100) + (7 \times 10) + (2 \times 1)$

(B) three hundred forty thousands, six hundred seventy-two

$300,000 + 4,000 + 600 + 70 + 2$

(D) 30 hundred thousand + 4 thousands + 6 hundreds + 70 tens + 2 ones

4. Erica earned 30,000 bonus points on her computer assignment. This is 10 times as many bonus points as she earned last week. How many bonus points did Erica earn last week?

3,000 points

5. Rich earns \$35 per week mowing lawns in his neighborhood. Which expression can be used to show how much money he earns in 8 weeks?

(A)  $(8 + 30) + (8 + 5)$

(C)  $(8 + 30) \times (8 + 5)$

$(8 \times 30) + (8 \times 5)$

(D)  $(8 \times 30) \times (8 \times 5)$

6. The table shows the equations Mr. Berger discussed in math class today.

Equations
$4 \times 10^0 = 4$
$4 \times 10^1 = 40$
$4 \times 10^2 = 400$
$4 \times 10^3 = 4,000$

Explain the pattern of zeros in the product when multiplying by powers of 10.

**Possible explanation: For each power of ten, the number of zeros written after the base is the same as the number in the exponent.**



7. It is 1,325 feet from Kinsey's house to her school. Kinsey walks to school each morning and gets a ride home each afternoon. How many feet does Kinsey walk to school in 5 days?

6,625 feet

8. Liam saves \$12 of his allowance each week. Complete the table to show the total amount Liam saves.

Liam's Savings	
Number of Weeks	Total Amount
4	\$48
9	\$108
15	\$180

all 3  
must be  
correct

9. Kara followed these steps to evaluate the expression  $22 + (30 - 4) \div 2$ .

$$30 - 4 = 26$$

$$26 + 22 = 48$$

$$48 \div 2 = 24$$

George looks at Kara's work and says she made a mistake. He says she should have divided by 2 before she added.

### Part A

Which student is correct? Explain how you know.

**George; Possible answer: According to the order of operations, you should perform division before addition.**

### Part B

Evaluate the expression.

$$30 - 4 = 26 \quad 26 \div 2 = 13 \quad 22 + 13 = 35$$

GO ON 

10. Fahed buys 12 stickers for \$2 each. He also buys 4 sticker albums. Each album costs twice as much as each sticker. Fahed has a coupon that gives him \$2 off the sticker albums. Which numerical expression shows how much he spent?

1pt

(A)  $(12 \times 2) + [(4 \times 2) - 2]$    
  (C)  $(12 \times 4) + [(4 \times 4) - 2]$   
 (B)  $(12 \times 2) + [(4 \times 4) - 2]$    
  (D)  $(12 \times 4) + [(4 \times 2) + 2]$

11. Evaluate the numerical expression.

1pt

$$(57 + 4) \times 4 - 16 = \boxed{228}$$

12. Paul displays his sports trophies on shelves in his room. He has 5 trophies on each of 3 shelves and 2 trophies on another shelf. Write an expression to represent the number of trophies Paul displays.

1pt

$$\boxed{(5 \times 3) + 2}$$

13. Veronica is solving this problem in math class.

Janelle buys 4 cases of water. Each case of water contains 12 bottles. Janelle drinks 3 bottles of water.

Veronica writes a numerical expression to represent the situation. Her expression,  $(12 - 3) \times 4$ , has a mistake.

2pts possible

↓

1pt

**Part A**

Explain Veronica's mistake.

Possible explanation: Veronica subtracted 3 from 12 when she should have multiplied  $12 \times 4$  and then subtracted 3 from this amount.

**Part B**

Write an expression to find how many bottles of water are left, and then solve it.

1pt

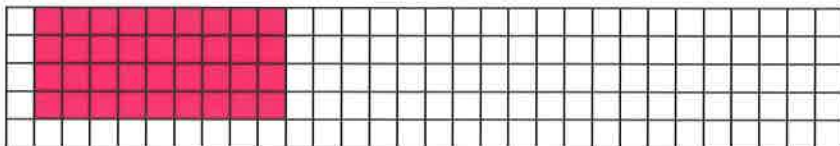
$$\boxed{(12 \times 4) - 3 = 45}$$

*2pts possible*  
↓  
*1pt*

14. Hector has 36 action figures. He separates his action figures into 4 equal groups to share with his friends. How many action figures does each friend get?

**Part A**

Use the array to show your answer.



**Part B**

Use the multiplication sentence to complete the division sentence.

$4 \times \boxed{9} = 36$        $36 \div 4 = \boxed{9}$

*2pts possible*

15. Marcus is making dinner for 7 people. Marcus opens 6 cans of soup. Each can is 14 ounces. If everyone gets the same amount of soup, how much soup will each person get? Use numbers and words to explain your answer.

**12 ounces; Possible explanation: First, I multiply  $6 \times 14 = 84$  to find the total number of ounces of soup. Then, I divide  $84 \div 7 = 12$ . So, each person gets 12 ounces of soup.**

*0 points = amount of soup incorrect*  
*1 point = amount of soup correct, but explanation missing or incorrect*  
*2 points = both amount of soup & explanation correct*

*3pts possible*

16. Megan wants to find the quotient. Use multiplication and the Distributive Property to help Megan find the quotient.

$72 \div 4 = \boxed{18}$  *1pt*

Multiplication  $4 \times 18 = 72$  *1pt*

Distributive Property  $(4 \times 10) + (4 \times 8)$  *1pt*



17. Marlene can type 157 words per minute. If she types at the same rate, how many words can she type in 25 minutes?

1pt

3,925 words

18. There are 7 school buses taking students on a field trip. There are 37 students on each bus. How many students are going on the field trip?

1pt

259 students

19. Select other ways to write 60,472. Mark all that apply.

1pt

- $(6 \times 10,000) + (4 \times 100) + (7 \times 10) + (2 \times 1)$
- $60,000 + 400 + 70 + 2$
- sixty thousand, four hundred seventy-two
- (D) six thousand, four hundred seventy-two

20. For numbers 20a–20b, select True or False.

2pts

- 20a.  $42 - (9 + 6)$ , value: 27       True       False
- 20b.  $18 + (22 - 4) \div 6$ , value: 6       True       False

} 1 point each

21. Peter ran 3 miles a day for 17 days. On the 18th day, Peter ran 5 miles. Write an expression that matches the words.

1pt

$(3 \times 17) + 5$

22. Select other ways to express  $10^4$ . Mark all that apply.

1pt

- (A)  $10 \times 4$                        10,000
- (B)  $10 + 4$                        (E)  $10 + 10 + 10 + 10$
- (C) 1,000                            $10 \times 10 \times 10 \times 10$

