

Show all work on a separate sheet of paper.

Evaluate the expression by replacing each variable with its given value.

$$a = 6, b = 9, c = 12, d = 16$$

1.	$2c + a$		2.	$\frac{3d}{a} + b$	
3.	$d + c - 15$		4.	$a(3 + b) + 4$	
5.	$24 - \sqrt{b}$		6.	$\frac{3 \cdot a^2}{2}$	

Solve the equation using mental math. Check your answer.

7.	$8p = 96$	
8.	$x + 2 = 16$	
9.	$g - 10 = 35$	

Solve each equation. Show all steps.

10.	$t - 14 = 42$		11.	$6k = 84$	
12.	$\frac{m}{8} = 4$		13.	$m - 25 = 13$	

Write each sentence as an algebraic equation and then solve.

		Equation	Answer
14.	The number of students decreased by 32 is 275.		
15.	25 pounds greater than his weight is 165 pounds.		
16.	The quotient of a number and 15 is 7.		

17.	When Mr. Mangham started his jogging program he could only run 0.45 miles. When Mr. Mangham ran his marathon he ran 26.2 miles. What is the difference in these two mileages?			
18.	The last four American League batting champions have hit 0.359, 0.344, 0.33, and 0.348. Write these numbers in order from least to greatest.			
19.	<p>You earn \$12 each time you babysit your little sister. Last year you earned \$156. Solve the equation $12t = 156$ to find the amount of times you babysat last year.</p>			

20.	<p>There were 32 students playing on the playground at the start of recess. Five minutes later x students had joined the original group. Which expression shows the total number of people on the playground?</p> <p>A. $32 + x$ C. $32 - x$ B. $32x$ D. $x \div 32$</p>			
21.	<p>Mr. Underwood's kickball team scored 28 total runs in their first four games. If they ended their eight game season with 52 runs, which expression could be used to find how many total runs they scored in their final four games?</p> <p>A. $52 + 28$ C. $52 \cdot 4 - 28$ B. $52 + 28 \cdot 8$ D. $52 - 28$</p>			
22.	<p>Six Flags charges \$80 for a season pass. Your family buys 4 season passes and your family spends \$20 on food each time you visit. If you visit 8 times which equation represents t, the total amount of money spent on admission and food?</p> <p>A. $t = 80 + (8 \cdot 20)$ C. $t = (4 \cdot 80) + (4 \cdot 20)$ B. $t = (4 \cdot 80) + (8 \cdot 20)$ D. $t = 80 + 20$</p>			
23.	<p>You get an allowance of \$15 a week plus \$2 for each chore you perform. If you earned \$37 last week which equation could be used to find n, the number chores you performed?</p> <p>A. $(15 + 2) \cdot n = 37$ C. $15n + 12 = 37$ B. $15 - 2n = 37$ D. $15 + 2n = 37$</p>			

For each table below describe the relationship between the input and the output.

24.

Input	Output
2	14
4	28
6	42
8	56
10	70
x	

25.

Input	Output
70	52
60	42
50	32
40	22
30	12
x	

26.

Input	Output
72	24
66	22
60	20
54	18
48	16
x	

27.

Pepperonis, p	60	90	120	150	180
Pizzas, z	2	3	4	5	6

Based on the information in the table, which expression can be used to find z , the number of pizzas containing p pepperonis?

A. $p + 30$

B. $p - 58$

C. $p \div 30$

D. $30 \cdot p$

28.

Length, l	12	18	24	30	36
Width, w	16	22	28	34	40

Based on the information in the table, which expression can be used to find w , the width of an object with length l ?

A. $l + 4$

B. $l - 4$

C. $l + 6$

D. $l - 6$