

**Directions: Circle the equation that best fits the given situation. Then SOLVE the equation.**

1) Adding 1 to twice the sum of a number and 8 is  $-19$ . What's the number?

a.  $2n + 8 + 1 = -19$

c.  $2(n + 8 + 1) = -19$

b.  $2(n + 8) + 1 = -19$

d.  $2n + (8 + 1) = -19$

Solution:  $2n + 16 + 1 = -19$   
 $2n + 17 = -19$   
 $2n = -36$   
 $n = -18$

2) Twice the sum of a number and nine times that number is 100. What's the number?

a.  $2n + 9n = 100$

c.  $2(n + 9n) = 100$

b.  $2n + (9 + n) = 100$

d.  $2(n + 9n) = 100$

Solution:  $2(10n) = 100$   
 $20n = 100$   
 $n = 5$

3) Mr. Bean sells a can of his beans half-off. The cost of the beans after the discount is \$4. How much are the beans normally?

a.  $c + \frac{1}{2}c = 4$

c.  $\frac{1}{2}c - c = 4$

b.  $c - \frac{1}{2}c = 4$

d.  $\frac{1}{2}(c) = 4$

Solution:  $\frac{1}{2}c = 4$   
 $c = 8$

4) Sully sells his shirts after adding  $\frac{1}{4}$  of the price and an additional 2 dollars for shipping. If you ordered a shirt and it cost you 42 dollars including shipping, how much did it cost Sully?

a.  $s + \frac{1}{4}s + 2 = 42$

c.  $\frac{1}{2}s - s + 2 = 42$

b.  $s - \frac{1}{2}s + 2 = 42$

d.  $\frac{1}{2}(s) + 2 = 42$

Solution:  $\frac{5}{4}s + 2 = 42$   
 $\frac{5}{4}s = 40$   
 $5s = 160$   
 $s = 32$

**Directions: For each situation make an equation, define your variables and solve your equation.**

5) The sum of three consecutive integers is  $-39$ . Find the three integers.

Equation:  $n + n+1 + n+2 = -39$   
 $3n + 3 = -39$   
 $3n = -42$   
 $n = -14$   
 $n+1 = -13$   
 $n+2 = -12$

Answer:

$n = -14$   
 $n+1 = -13$   
 $n+2 = -12$

6) Mr. Brust takes a lot of naps during the summer. Last summer, Brust took 76, which is  $\frac{1}{3}$  times more than the previous summer. How many naps did Brust take that previous summer?

Equation:  $N = \# \text{ NAPS Previous Summer}$   
 $N + \frac{1}{3}N = 76$

Answer:

$3 \cdot \frac{4}{3}N = 76 \cdot 3$   
 $4N = 228$   
 $N = 57 \text{ NAPS}$

7) Mr. Kelly takes  $\frac{1}{10}$ th of the score off of any Unit test that is taken late. If a student who takes a test late received a final grade of 72, what score would the student have received if the test was on time?

Equation:

$T - \frac{1}{10}T = 72$   
 $\frac{9}{10}T = 72 \cdot 10$

Answer:

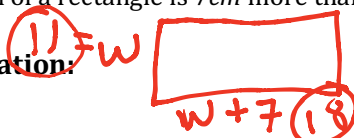
$9T = 720$   
 $T = 80$

LET  $T$  Be original Test Grade

TEST GRADE = 80

8) The length of a rectangle is 7cm more than the width. Find the length of each side of the rectangle if the perimeter is 58 cm.

Equation:



$2W + 2(W+7) = 58$   
 $2W + 2W + 14 = 58$   
 $4W + 14 = 58$   
 $4W = 44$   
 $W = 11$

Answer:

WIDTH = 11  
 LENGTH = 18

LET  $W$  = WIDTH OF RECT