1) The average of 3 numbers is between 6 and 9. The sum of these three numbers could be any one of the following EXCEPT:

A) 17

B) 18.5

C) 21

D) 23

E) 26.5

Jul 10-10:48 AM

1) The average of 3 numbers is between 6 and 9. The sum of these three numbers could be any one of the following EXCEPT:

A) 17

B) 18.5

C) 21

D) 23

E) 26.5

$6 \times 3 = 18$

$9 \times 3 = 27$

(A)

$6, 6, 6 = \frac{18}{3} = 6$

$0, 6, 12 = \frac{18}{3} = 6$

$5, 6, 7 = \frac{18}{3} = 6$

2) Alan is twice as old as Sue and half as old as Joseph. If the average of their ages is 14, how old is Sue?

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2) Alan is twice as old as Sue and half as old as Joseph. If the average of their ages is 14, how old is Sue?

$A = 2S$

$A = \frac{1}{2}J$

$\frac{1}{2}A = S$

$2A = J$

$\frac{A+S+J}{3} = 14$

$A+S+J = 42$

$A + \frac{1}{2}A + 2A = 42$

$\frac{7}{2}A = 42$

$A = \frac{42 \cdot 2}{7}$

$A = 12$

$S = \frac{1}{2}A$

$S = 6$

3) The average of two numbers is 7, and the product is 48. The positive difference between the two numbers is...?

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3) The average of two numbers is 7, and the product is 48. The positive difference between the two numbers is...?

$\frac{a+b}{2}=7 \Rightarrow a+b=14 \Rightarrow a=14-b$

$a \cdot b = 48$

$(14-b)b=48$

$14b-b^2=48$

$b^2-14b+48=0$

$(b-8)(b-6)=0$

$b=8 \quad b=6$

$1+13$
$2+12$
$\vdots$
$6+8$ ✓

diff = 2

4) If the average of six numbers is -6, and the sum of four of the numbers is 20, what is the average of the other two numbers?

Jul 8-9:00 AM

4) If the average of six numbers is -6, and the sum of four of the numbers is 20, what is the average of the other two numbers?

$$\frac{(x_1+x_2+x_3+x_4)+x_5+x_6}{6} = (-6)$$

sum

$(-6)6 = -36$

$$\frac{20}{}$$

$$20 + x_5 + x_6 = -36$$

$$\frac{x_5+x_6}{2} = -\frac{56}{2}$$

$$\frac{x_5+x_6}{2} = -28$$

5) The average of x, y, and 80 is 6 more than the average of y, z, and 80. What is the value of x-z?

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5) The average of x, y, and 80 is 6 more than the average of y, z, and 80. What is the value of x-z?

$$\frac{x+y+80}{3} = 6 + \frac{y+z+80}{3}$$

$$x+y+80 = 18 + y+z+80$$

(y, 80 go away)

$$x = 18 + z$$

$$x-z = 18$$

6) The average of ten consecutive integers arranged in increasing order is 15 1/2. What is the average of the first five of these integers?

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$x_1 + \ldots + x_{10} = 15\frac{1}{2}$

A=13

7) The sum of p and r is 18 and s = 12. What is the average of p, r, and s?

7) The sum of p and r is 18 and s = 12. What is the average of p, r, and s?

$p+r=18$ $\quad s=12$

$\frac{p+r+s}{3} = \frac{30}{3}$ $\quad A = 10$

8) If the average of four numbers is 37 and the average of two of these numbers is 33, what is the average of the other two?

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8) If the average of four numbers is 37 and the average of two of these numbers is 33, what is the average of the other two?

$a+b+c+d = 4 \cdot 37$

$a+b = 2 \cdot 33$

$2.33 + c + d = 4.37$

$c+d = 148 - 66 = 82$

$\frac{c+d}{2} \quad \frac{A}{2}$

$A = 41$