

- 1) Separate 96 into two parts so that one part is $5/3$'s of the other part.
- 2) Mark's quiz scores are 96, 87, 94, 95, and 93. What is the lowest score he can receive on the next quiz and still achieve a quiz average of 94?
- 3) If
 A = the largest prime number less than 125
 B = the arithmetic mean of 26, 33, 19, 58, and 49
 C = the square of 25
 D = the Lowest Common Multiple of 28 and 35 ,
 find $A + B + C + D$.
- 4) The sum of two even numbers is greater than 59. One of them is six less than three times the other. What is the product of the least possible values of these numbers?
- 5) If
 W = 30 % of 90
 X = 150 % of 150
 Y = $12\frac{1}{2}$ % of 24
 Z = $333\frac{1}{3}$ % of 33 ,
 find $W + X + Y + Z$.
- 6) Adam has \$ 31 in nickels, dimes and quarters. The number of dimes is 5 more than 5 times the number of nickels and the number of quarters is 10 less than twice the number of dimes. Find the number of dimes he has.
- 7) If
 A = $12 + 4 \div 4 - 2^3$
 B = $20 \div \frac{1}{2} - 12 \cdot \frac{4}{3}$
 C = $-6^2 - 4^2 - 2^2$
 D = $\frac{2}{3}(7) + \frac{2}{3}(13) + \frac{2}{3}(10)$,
 find $A + B + C + D$.
- 8) A large pipe can fill a certain tank in 4 hours and a small pipe can fill this same tank in 8 hours. A third pipe can empty this same tank in 5 hours and a fourth pipe can empty this same tank in 10 hours. How many hours would it take to fill this tank if all four are opened at the same time?
- 9) Find the product of the slope and y-intercept for the line passing through the point $(-4, -2)$ and the midpoint of the segment with endpoints $(2, -2)$ and $(-6, -10)$.
- 10) If
 A = $68^2 - 32^2$
 B = $23^2 + 2 \cdot 23 \cdot 27 + 27^2$
 C = sum of the roots for $x^2 - 9x + 8 = 0$
 D = product of the roots for $2x^2 - 17x + 8 = 0$,
 find $\sqrt{A} + \sqrt{B} + \sqrt{C} + \sqrt{D}$.

- 11) The sum of two rational numbers $\frac{7}{10}$, and one of them is $\frac{3}{4}$'s of the other. Find the product of the two numbers.
- 12) Mark and Scott live 17 miles apart. Mark drives directly south and Scott drives directly west. They meet at Dan's house. If Scott drives 7 miles farther than Mark, how many miles did Mark drive?
- 13) Completely factor $72x^2 - 34x - 15$ in the form $(Ax + B)(Cx + D)$ and find $A + B + C + D$.
- 14) Rebecca paints her bedroom in 8 hours. If her sister helps her, it takes them only 3 hours. How many hours would it take her sister to paint this bedroom alone?
- 15) Solve for x :

$$\frac{2x + 3}{x - 1} - \frac{2x - 3}{x + 1} = \frac{10}{x^2 - 1}$$