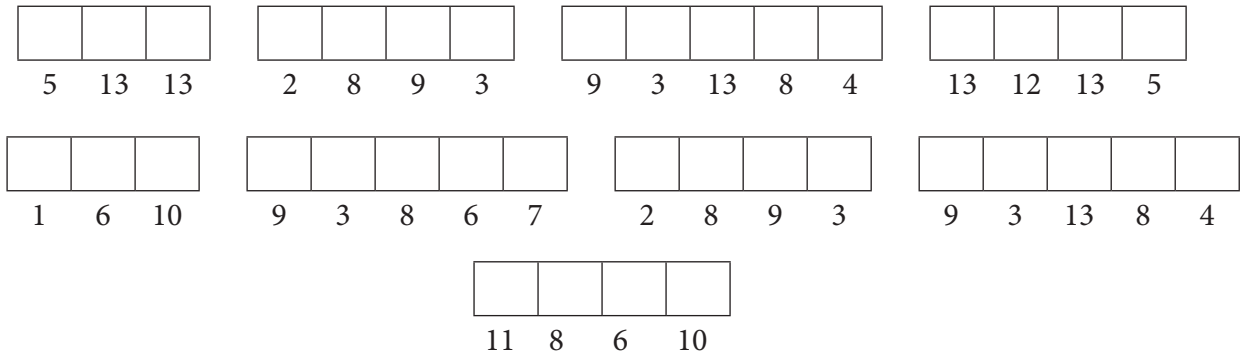
PUZZLE SHEET

Logarithms – Solving equations 2



Albert Einstein – scientist

Questions

Solve the following equations. (Remember, $\log a$ is possible only if $a > 0$.)

1 $\log(x + 7) = \log(13)$

2 $\log(5) + \log(x) = \log(x + 12)$

3 $2\log(x) = \log(49)$

4 $\log(5x + 2) - \log(3) = \log(x + 2)$

5 $2\log(x - 4) = \log(18) + \log(2)$

6 $\log(3) + \log(x + 7) = \log(x + 17)$

7 $\log(x - 10) = \log(x) - \log(3)$

8 $2\log(x + 7) = \log(9)$

9 $4\log(x) - \log(x) = \log(64)$

10 $\log(x + 3) + \log(x - 2) = \log(7x - 11)$

11 $\log(12) - \log(x) = \log(7 - x)$

12 $\log(x + 3) = \log(13x - 71) - \log(x - 5)$

13 $\log(x + 1) + \log(x - 4) = \log(11x - 49)$

Solutions

A $x = 6$

D $x = 5$

E $x = 5$ or $x = 9$

H $x = 7$

I $x = -4$

K $x = 15$

M $x = 3$ or $x = 4$

N $x = -2$

R $x = 2$

S $x = 10$

T $x = 4$

W $x = 3$

Y $x = 7$ or $x = 8$