Deciles for Grouped Data

Total points = 66

Scores of 10–Tesla Students in the 4^{th} Periodic Test in Mathematics

Score	f	cf< ✓
46 – 50	2	50
41 – 45	9	48
36 – 40	13	39
31 – 35	11	26
26 – 30	10	15
21 – 25	5	5
$i = 5$ ✓	$N = 50$ ✓	

1. $\frac{6(50)}{10} = 30$ ✓
   $36 - 40\ D_6$ ✓
   $D_6 = lb + \left[\frac{\frac{6N}{10} - cf_b}{f_{D_6}}\right] i$ ✓
   $D_6 = 35.5 + \left[\frac{\frac{6(50)}{10} - 26}{13}\right] 5$ ✓
   $D_6 = 35.5 + 1.538$ ✓
   $D_6 = 37.04$ ✓
2. $\frac{3(50)}{10} = 15$ ✓
   $26 - 30\ D_3$ ✓
   $D_3 = lb + \left[\frac{\frac{3N}{10} - cf_b}{f_{D_3}}\right] i$ ✓
   $D_3 = 25.5 + \left[\frac{\frac{3(50)}{10} - 5}{10}\right] 5$ ✓
   $D_3 = 25.5 + 5$ ✓
   $D_3 = 30.5$ ✓
3. $\frac{50}{10} = 5$ ✓
   $21 - 25\ D_1$ ✓
   $D_1 = lb + \left[\frac{\frac{N}{10} - cf_b}{f_{D_1}}\right] i$ ✓
   $D_1 = 20.5 + \left[\frac{\frac{50}{10} - 0}{5}\right] 5$ ✓
   $D_1 = 20.5 + 5$ ✓
   $D_1 = 25.5$ ✓
4. $\frac{7(50)}{10} = 35$ ✓
   $36 - 40\ D_7$ ✓
   $D_7 = lb + \left[\frac{\frac{7N}{10} - cf_b}{f_{D_7}}\right] i$ ✓
   $D_7 = 35.5 + \left[\frac{\frac{7(50)}{10} - 26}{13}\right] 5$ ✓
   $D_7 = 35.5 + 3.462$ ✓
   $D_7 = 38.96$ ✓
5. $\frac{8(50)}{10} = 40$ ✓
   $41 - 45\ D_8$ ✓
   $D_8 = lb + \left[\frac{\frac{8N}{10} - cf_b}{f_{D_8}}\right] i$ ✓
   $D_8 = 40.5 + \left[\frac{\frac{8(50)}{10} - 39}{9}\right] 5$ ✓
   $D_8 = 40.5 + 0.556$ ✓
   $D_8 = 41.06$ ✓

Number of Mistakes Made by 50 Students in Factoring Quadratic Equations

Number of Mistakes	f	cf< ✓
0 – 2	4	4
3 – 5	8	12
6 – 8	15	27
9 – 11	10	37
12 – 14	6	43
15 – 17	5	48
18 – 20	2	50
$i = 3$ ✓	$N = 50$ ✓	

6. $\frac{2(50)}{10} = 10$ ✓
   $3 - 5\ D_2$ ✓
   $D_2 = lb + \left[\frac{\frac{2N}{10} - cf_b}{f_{D_2}}\right] i$ ✓
   $D_2 = 2.5 + \left[\frac{\frac{2(50)}{10} - 4}{8}\right] 3$ ✓
   $D_2 = 2.5 + 2.25$ ✓
   $D_2 = 4.75$ ✓
7. $\frac{9(50)}{10} = 45$ ✓
   $15 - 17\ D_9$ ✓
   $D_9 = lb + \left[\frac{\frac{9N}{10} - cf_b}{f_{D_9}}\right] i$ ✓
   $D_9 = 14.5 + \left[\frac{\frac{9(50)}{10} - 43}{5}\right] 3$ ✓
   $D_9 = 14.5 + 1.2$ ✓
   $D_9 = 15.7$ ✓
8. $\frac{50}{10} = 5$ ✓
   $3 - 5\ D_1$ ✓
   $D_1 = lb + \left[\frac{\frac{N}{10} - cf_b}{f_{D_1}}\right] i$ ✓
   $D_1 = 2.5 + \left[\frac{\frac{50}{10} - 4}{8}\right] 3$ ✓
   $D_1 = 2.5 + 0.375$ ✓
   $D_1 = 2.875$ ✓
9. $\frac{6(50)}{10} = 30$ ✓
   $9 - 11\ D_6$ ✓
   $D_6 = lb + \left[\frac{\frac{6N}{10} - cf_b}{f_{D_6}}\right] i$ ✓
   $D_6 = 8.5 + \left[\frac{\frac{6(50)}{10} - 27}{10}\right] 3$ ✓
   $D_6 = 8.5 + 0.9$ ✓
   $D_6 = 9.4$ ✓
10. $\frac{8(50)}{10} = 40$ ✓
    $12 - 14\ D_8$ ✓
    $D_8 = lb + \left[\frac{\frac{8N}{10} - cf_b}{f_{D_8}}\right] i$ ✓
    $D_8 = 11.5 + \left[\frac{\frac{8(50)}{10} - 37}{6}\right] 3$ ✓
    $D_8 = 11.5 + 1.5$ ✓
    $D_8 = 13$ ✓

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