

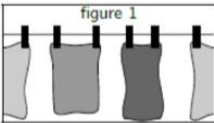
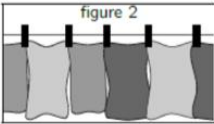
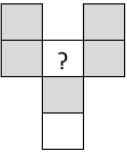


<p>1. <math>(12 + 34) + 56 = 46 + 56</math>  <math>12 + (34 + 56) = 12 + 90</math>  <math>12 + 34 + 56 = 34 + 12 + 56 = 34 + (12 + 56) = 34 + 68</math>            D. <math>46 + 68</math></p>	<p>2. Five days before Wednesday is Friday.            A. Friday</p>
<p>3. <math>(6 \times 12) + (12 \times 2) = 96 = 32 \times 3</math>            B. 32</p>	<p>4. The number of dots = a multiple of <math>4 + 3</math>.            Since <math>31 = 4 \times 7 + 3</math>, Giggles the Clown could have a total of 31 dots on his costume.            A. 31</p> 
<p>5. There are 6 roses for every 5 daisies in my garden, so <math>6/(6+5) = 6/11</math> of the 66 flowers I have are roses. Thus,  <math>\frac{6}{11} \times 66 = 36</math> roses.            D. 36</p>	<p>6. Sunday: <math>2^1 = 2</math>      Thursday: <math>2^4 = 16</math>            Monday: <math>2^2 = 4</math>      Friday: <math>2^6 = 64</math>            Tuesday: <math>2^3 = 8</math>      Saturday: <math>2^7 = 128</math>            Wednesday: <math>2^4 = 16</math>            C. Saturday</p>
<p>7. <math>123 \div 4 = (120 + 3) \div 4</math>, so the remainder is 3.  <math>234 \div 5 = (230 + 4) \div 5</math>, so the remainder is 4.            and <math>345 \div 2</math>'s remainder is 1.      C. 8</p>	<p>8. The average of 1.75 and 7.25 is equidistant from them.            The average is <math>(1.25+7.25) \div 2 = 4.5</math>            D. 4.5</p>
<p>9. <math>4^5 = (2^2)^5 = 2^{10}</math>      <math>6^7 = (2 \times 3)^7 = 2^7 \times 3^7</math>  <math>2^3 \times 3^4 \times 4^5 \times 6^7 \times 9^{10} = 2^3 \times 3^4 \times 2^{10} \times 2^7 \times 3^7 \times 3^{20}</math>  <math>= 2^3 \times 2^{10} \times 2^7 \times 3^4 \times 3^7 \times 3^{20} = 2^{3+10+7} \times 3^{4+7+20}</math>            B. <math>2^{20} \times 3^{31}</math></p>	<p>10. The ratio of red cars to black cars is <math>8:5 = 24:15</math>;            the ratio of black cars to white cars is <math>3:4 = 15:20</math>.            The minimum number of cars is <math>24+15+20 = 59</math>.            B. 59</p>
<p>11. For every 3 numbers left, one multiple of 4 was removed. Since <math>2345 \div 3 = 781 \text{ R } 2</math>, 781 multiples of 4 were removed. Since there is a remainder of 2, the last number in the list was <math>4 \times 781 + 2 = 3126</math>.            A. 3126</p>	<p>12. At first, each day I loaded 90 boxes instead of 120, I was 30 boxes short. If I were on schedule, I would need to load <math>120 \times 6 = 720</math> boxes the last 6 days. But the fact was I had to load <math>(1200 - 720) = 480</math> extra boxes, which helped me to catch up. That is to say, I was 480 boxes in short at first. As I was 30 boxes short each day, and <math>480 \div 30 = 16</math>, that means for the first 16 days I loaded 90 boxes each day instead of 120. In total, I did the job for <math>16 + 6 = 22</math> days.      C. 22</p> 
<p>13. I counted 50% more leaves than I had counted the day before. <math>\Rightarrow</math> Working backwards, I counted <math>2/3</math> the number of leaves on each previous day.            As I counted 2430 leaves last Friday, on Sunday, which was 5 days later, I counted <math>(\frac{2}{3})^5 \times 2340 = 320</math> leaves.  <math>(\frac{2}{3})^5 \times 2340 = \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times (3 \times 3 \times 3 \times 3 \times 3 \times 10) = 320</math>            D. 320</p>	<p>14. Let <math>x</math> = the number towels hang up in the way shown in figure 1.            Then <math>(35 - x)</math> = the number towels hang up in the way shown in figure 2.            He used <math>2x</math> pegs in figure 1.            He used <math>(35 - x + 1)</math> pegs in figure 2.            So <math>2x + 35 - x + 1 = 58</math>  <math>x + 36 = 58</math>  <math>x + 36 - 36 = 58 - 36</math>  <math>x = 22</math>            C. 22</p>  
<p>15. The cell marked by the question mark has 5 neighboring cells shaded in grey. Since two consecutive numbers cannot be written in two neighboring cells, so the number in the cell marked by the question mark cannot be a consecutive number to five numbers.</p> 	<p>Thus the options for the cell marked by the question mark can only be the numbers 1 or 7. (D)</p> 