


















<p>1. Divide each answer choice by 2, then check for a multiple of 6. $36 \div 2 = 18$ and 18 is a multiple of 6. C. 36</p>	<p>2. In 1 second, your rocket flies $300 \text{ m} = 300 \times 100 \text{ cm} = 30,000 \text{ cm}$, and my pet runs 300 cm. Speed ratio = $30,000 : 300 = 100 : 1 = 100$. D. 100</p>								
<p>3. of the choices listed, only 900 is the square of an integer. D. 900</p>	<p>4. $75 \text{ nickels} = 375 \text{ ¢} = (375 \div 25) \text{ quarters} = 15 \text{ quarters}$. B. 15</p>								
<p>5. $80 \text{ km in } 60 \text{ min.} = 8 \text{ km in } 6 \text{ min.} = 24 \text{ km in } 18 \text{ mins.}$ $\frac{80 \text{ km} \div 10}{60 \text{ min} \div 10} = \frac{8 \text{ km}}{6 \text{ min}} =$ $\frac{8 \text{ km} \times 3}{6 \text{ min} \times 3} = \frac{24 \text{ km}}{18 \text{ min}}$ B. 24</p> 	<p>6. The sum is $2 + 3 + 5 + 7 + (1 + 1) + (1 + 3) + (1 + 7) + (1 + 9) = 41$. C. 41</p>								
<p>7. 2 pears weigh as much as 3 peaches, so 4 pears weigh as much as 6 peaches; 2 peaches weigh as much as 30 grapes. so 6 peaches weigh as much as 90 grapes. Therefore, 4 pears weigh as much as 90 grapes. A. 4</p>	<p>8. The perimeter of the square is 32. A side has length 8, and the area is 64. Half of the square is shaded, so the shaded area is 32. D. 32</p> 								
<p>9. In 24 hours, the hour hand goes around the clock 2 times, the minute hand 24 times, and the second hand $60 \times 24 = 1440$ times. C. 1446</p>	<p>10. For example, try $2 \times 3 \times 5 = 60$, which is divisible by 2×3, 2×5, 3×5, and $2 \times 3 \times 5$. The product of 3 primes is always divisible by 4 non-primes > 1. D. 4</p>								
<p>11. Keep adding consecutive integers until you reach 120¢: $1\text{¢} + 2\text{¢} + 3\text{¢} + \dots + 14\text{¢} + 15\text{¢} = 120\text{¢}$, so I am 15 years old. C. 15 Tricks for adding consecutive numbers: $1+2+3+4+5+6+7+8+9+10+11+12+13+14+15$ $= (1+15)+(2+14)+(3+13)+(4+12)+(5+11)+(6+10)+(7+9)+8$ $= 16 \times 7 + 8 = 112+8 = 120$</p>	<p>12. The sum of the dots on opposite faces of an ordinary die is equal to 7, so any two numbers with sum of 7 cannot be adjacent or sharing the same edge.</p> <table border="1" data-bbox="824 1199 1511 1325"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A. 2 and 5 are adjacent</td> <td>B. 3 and 4 are adjacent</td> <td>C. 1 and 6 are adjacent</td> <td>D. Ordinary</td> </tr> </table>					A. 2 and 5 are adjacent	B. 3 and 4 are adjacent	C. 1 and 6 are adjacent	D. Ordinary
									
A. 2 and 5 are adjacent	B. 3 and 4 are adjacent	C. 1 and 6 are adjacent	D. Ordinary						
<p>13. Exactly one of these statements is false.</p> <p>A. My son Basil has 3 sisters. C. My daughter Ann has 2 sisters. → A and C support each other, so both are correct.</p> <p>B. My daughter Ann has 2 brothers. D. My son Basil has 2 brothers. → Either B or D is false.</p> <p>E. I have 5 children. → A, C, and B together can conclude E. So D is false.</p>	<p>14. Since $\\$24 \div \\$0.80 = 30$ and $\\$24 \div \\$1.20 = 20$, I bought 50 magnets for \$48. Thus, the average cost per magnet was $\\$48 \div 50 = \\0.96. B. \$0.96</p>								
<p>15.  $A+D = B + C + E$. As the balls weigh 30 g, 50 g, 50 g, 50g, and 80 g, so it could be: $50\text{g} + 80\text{g} = 30\text{g} + 50\text{g} + 50\text{g}$ A could be 50g or 80g.</p> <p> \rightarrow If A were 80g, the sum of A and B would be at least $80+30=110\text{g}$, which would be heavier than C+D. So A couldn't be 80g. A weighs 50g.</p> <p> So C weighs 30g.</p>									