**Grade 6 MCA-III – Test #1 Answers**

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| **1.**  | **http://www.linkstolearning.com/Images/tests/Image22683.gifWhich angles when combined have the same degree measure as a straight angle?**  |
|    | a.  | http://www.linkstolearning.com/Images/tests/Image22683a.gif |
|    | b.  | http://www.linkstolearning.com/Images/tests/Image22683b.gif |
|    | c.  | http://www.linkstolearning.com/Images/tests/Image22683c.gif |
|    | d.  | http://www.linkstolearning.com/Images/tests/Image22683d.gif |

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| Correct Answer:  | http://www.linkstolearning.com/Images/tests/Image22683c.gif |

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| **Explanation**Two angles are called supplementary angles if the sum of their degree measurements equals 180 degrees. When we combine angles OSN and OSM we get a straight line, which measures 180 degrees. [Supplementary Angles](http://www.mathleague.com/help/geometry/angles.htm#supplementaryangles) / [Geometry & Measurement](http://www.linkstolearning.com/links/geometry.htm)  |

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| **2.**  | **Which pair of numbers are equivalent?**  |
|    | a.  | 0.5, 1/5  |
|    | b.  | 0.06, 6/10  |
|    | c.  | 7/10, 0.07  |
|    | d.  | 8/100, 0.08  |

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| Correct Answer:  | 8/100, 0.08  |

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| **Explanation**To convert a fraction to a decimal, divide the numerator by the denominator: 8 ÷ 100 = 0.08. Therefore, 8/100 is equivalent to 0.08. [Fractions, Decimals, and Percents](http://home.avvanta.com/~math/fr_dec_pct.html) / Number & Operation  |

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| **3.**  | **Chen records the number of crayons in her art supply box by color. The results are shown in the table below.http://www.linkstolearning.com/Images/tests/Image6717.gifWhat is the ratio of the number of red crayons compared to the number of yellow crayons?**  |
|    | a.  | 1:3  |
|    | b.  | 3:1  |
|    | c.  | 1:10  |
|    | d.  | 3:10  |

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| Correct Answer:  | 3:1  |

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| **Explanation**A ratio is a comparison of two similar quantities obtained by dividing one quantity by the other. Ratios are written with the : symbol. Since there are 3 red crayons and 1 yellow crayon in the box, the ratio of red to yellow crayons is 3:1. [Ratios](http://cs.gmu.edu/cne/modules/dau/algebra/fractions/frac5_frm.html) / [Ratio & Proportion](http://www.linkstolearning.com/links/proporti.htm)/ Geometry & Measurement |

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| **4.**  | **A store sells potatoes in 5-pound bags for $2.29. Which of the following bags of potatoes would be the same price per pound?**  |
|    | a.  | A 20-pound bag for $8.80  |
|    | b.  | A 2-pound bag for $1.02  |
|    | c.  | A 10-pound bag for $4.58  |
|    | d.  | A 7-pound bag for $3.01  |

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| Correct Answer:  | A 10-pound bag for $4.58  |
| **Explanation**We need to divide 5 pounds by $2.29 to determine the price per pound: 2.29 ÷ 5 = 0.458 or $0.46 per pound. If we divide $4.58 by 10 pounds we get: 4.58 ÷ 10 = 0.458 or $0.46 per pound. Therefore, answer C is correct. [Division](http://www.aaastudy.com/div.htm) / Number &Operation  |

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| **5.**  | **Mr. Jenkins wants to distribute 40 fliers. He has distributed 30 fliers so far. What percent of the total number of fliers has Mr. Jenkins distributed?**  |
|    | a.  | 60%  |
|    | b.  | 70%  |
|    | c.  | 75%  |
|    | d.  | 80%  |

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| Correct Answer:  | 75%  |
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| **Explanation**Let *x* = the percent, and write the following equation: 30 = *x*% of 40. We can adjust this equation to read as follows: 30 = *x*/100 x 40. If we do the multiplication we get: 30 = 40*x*/100. We can place a 1 under the 30 to get: 30/1 = 40*x*/100. Now we can cross-multiply: 40*x* = 3,000. If we divide both sides by 40 we get: *x* = 75%. [Percents](http://mathbasics.freeservers.com/percentpg2.html) / Number & Operation  |

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| **6.**  | **A pan used to bake bread is in the form of a rectangular prism. The pan is 9 inches long, 5 inches wide, and 3 inches deep. What is the volume of the pan?**  |
|    | a.  | 17 in.3  |
|    | b.  | 45 in.3  |
|    | c.  | 135 in.3  |
|    | d.  | 945 in.3  |

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| Correct Answer:  | 135 in.3  |
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| **Explanation**The volume *V* of any right prism is the product of *B*, the area of the base, and the height *h* of the prism. The base *B* = *l* x *w* of the base. If we find the area of the base of this rectangular prism we get: 9 x 5 = 45. If we multiply the area of the base by the height we get: 45 x 3 = 135 in.3. [Volume of Prisms](http://library.thinkquest.org/20991/geo/solids.html#pvolume) / [Geometry & Measurement](http://www.linkstolearning.com/links/geometry.htm)  |

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| **7.**  | **What is the area of triangle HJK in square units?http://www.linkstolearning.com/Images/tests/Image5294.gif** |
|    | a.  | 13 square units  |
|    | b.  | 21 square units  |
|    | c.  | 36 square units  |
|    | d.  | 42 square units  |

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| Correct Answer:  | 21 square units  |
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| **Explanation**The area of a triangle is 1/2 × b × h, where b is the length of the base of the triangle, and h is the corresponding height. By looking at this triangle we can see that the base is 7 units and the height is 6. If we plug these number into the formula we get: A = 1/2 x 7 x 6 or A = 21 square units. [Area of a Triangle](http://www.mathleague.com/help/geometry/area.htm#areaofatriangle) / [Geometry & Measurement](http://www.linkstolearning.com/links/geometry.htm)  |

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| **8.**  | **Ted collected 22 pounds of aluminum cans. How many ounces of aluminum cans did he collect?**  |
|    | a.  | 6 oz  |
|    | b.  | 38 oz  |
|    | c.  | 352 oz  |
|    | d.  | 220 oz  |

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| Correct Answer:  | 352 oz  |
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| **Explanation**Since there are 16 ounces in 1 pound, we can multiply that number by 22 pounds to find out how many ounces of cans Ted collected: 16 x 22 = 352 ounces. [The English System of Measurement](http://www.regentsprep.org/Regents/math/ALGEBRA/AM2/LesEng.htm) / [Geometry & Measurement](http://www.linkstolearning.com/links/geometry.htm)  |