

2009 Math Diagnostic Answer Key

| Q# | Question | Answer |
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| 1 | Write the number 90 090 in words. | <i>ninety thousand ninety</i> |
| 2 | What is the total surface area of the rectangular prism below? (1x2x3cm) | $SA = 22cm^2$ |
| 3 | A package of 3 pairs of socks costs \$3.90. What is the cost of one pair of socks? | (a) <i>\$1.30</i> |
| 4 | Consider the three equations: $m + 9 = 12$; $m + n + 3 = 14$; $m + n + p = 15$. Solve for p . | Correct solution ($p = 4$); (NOTE: $m=3, n=8$) |
| 5 | What is the missing term in the following pattern: 532, 515, ____, 481, 464 | 498 |
| 6 | Maddie's and Lisa's scores on 5 math quizzes are shown in the table. According to the data in the table, Maddie's mean score is ... | (a) <i>lower than Lisa's mean score .</i> |
| 7 | Daneen connects 5 cubes as shown below. The dimensions of each cube are 2cm X 2cm X 2cm. Daneen wants to paint the outside of connected cubes with red paint. The cost to paint 1 cm ² is \$0.75. How much will it cost to paint the outside of the 5 connected cubes? | \$66.00 |
| 8 | Which of the following diagrams represents the quantity $\frac{1}{4}$? Circle all correct representations. | Correct selection includes: a,c,d and not selecting b |
| 9 | Joseph finishes a swim race in 73.365 seconds. Joseph knows the following about his friend's time for the same race. <ul style="list-style-type: none"> • The digit in the hundredths column is 3 more than Joseph's. • The digit in the ones column is 2 less than Joseph's. In what time does Joseph's friend swim the race? | 71.395 |

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| 10 | Which of the following represents the probability of an event that is very likely to occur? | (c) 0.85 |
| 11 | Which of the following has the greatest quantity? | (b) 1.30 |
| 12 | A pattern that increases when the same amount is added to each term is represented in the table. If this pattern continues, what is the term number when the term value is 53? | <i>Term # = 8</i> |
| 13 | A group of 6 people equally shares 12 litres of juice. How many millilitres of juice does each person receive? | (d) 2000 ml |
| 14 | At rest, you blink about 20 times per minute. At this rate, how long will it take you to blink about 1 000 000 times? | (c) 50 000 minutes |
| 15 | Triangle ABC is moved 3 units to the left and 4 units down. What are the new coordinates of Point C? | (d) (9,3) |
| 16 | All 130 students sign up for one of five activities. The table below shows some of the results. Susan estimates that 25% of the students signed up for drama. Jessica estimates that 50% of the students signed up for drama. Using the benchmarks of 10%, 25%, 50%, 75% or 100%, justify which estimate is more appropriate. | 25% |
| 17 | Clarke is using Geoboards (dot paper) with his class to explore perimeter. The pegs on the Geoboard (or dots on the paper) are one unit apart. For each of the shapes below, determine whether the perimeter EQUALS 12 units. Circle all shapes that have a perimeter of 12 units. | Select a & b and do not select c & d (There are 4 correct choices) |

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| 18 | A teacher plants 6 tulips and 9 roses in a planter. Which of the following represents the ratio of roses to tulips? | 03-Feb |
| 19 | As students we were often taught “rules of thumb” to help us remember particular mathematical ideas or procedures. Sometimes, however, these memory devices are not actually true, or they are not true for all numbers. For each of the following, determine whether it is true all of the time ... | (a) is the only "True for all numbers" response |
| 20 | Which of the following describes how Parallelogram A was moved to create Parallelogram B? | (c) translation/slide 3 units to the left, then a reflection over line l |
| 21 | Jenn’s dad thinks the answer to this skill testing question is 5. Jenn thinks the answer is 33. ($4 + 5 \times 7 - 6 = \underline{\quad}$). Who is correct? Explain your thinking. | 1 point for correct solution (<i>Jenn = 33</i>) <div style="border: 1px solid red; padding: 2px; color: red;">Question removed from original test due to an error.</div> solution strategy |
| 22 | The three-dimensional figure below has been built using cubes. ... What is the top view of this figure? | (a) |
| 23 | (a) Write a number that is halfway between 1.1 and 1.11; (b) Write a number between 0.65 and 0.7 | (a) 1.105; (b) multiple responses |
| 24 | The faces of a die are labelled 1, 2, 2, 3, 4 and 5. The die is rolled 200 times. How many times would you expect the number 2 to appear? | Approximately 66 times |
| 25 | Sanchez asked her students to write a formula for the perimeter of the rectangle pictured below. She was surprised by all the different answers students came up with. Which answer should she <u>not</u> accept as correct? | (b) $P = 2lw$ |