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| [Image result for quiz](https://www.google.com.au/imgres?imgurl=http://churchfieldsjunior.com/wp-content/uploads/2016/04/73621.jpg&imgrefurl=http://churchfieldsjunior.com/quiz-night/&docid=0TWZ1XmaB2M3GM&tbnid=Yd7kvqdc7hzNIM:&vet=10ahUKEwjgsue_q7jZAhWLurwKHdAtAhkQMwi6AigkMCQ..i&w=700&h=700&bih=963&biw=1920&q=quiz&ved=0ahUKEwjgsue_q7jZAhWLurwKHdAtAhkQMwi6AigkMCQ&iact=mrc&uact=8) | **Year 12 Methods**  **Term 5 Week 7 Quiz** |  |

Name: \_\_\_\_Answers\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| 1. | Malcolm devises the following game. He will toss two dice, and if a ‘double’ is observed he will pay his friend $3.60, otherwise his friend must pay him 60 cents. How much will Malcolm expect to win or lose per game in the long run using this strategy?   |  |  |  | | --- | --- | --- | | P | -3.6 | 0.6 | | Pr(X=x) |  |  |   E(X) = ( x -3.6) + ( x 0.6)  = -0.1  Expected loss of 10 cents per game. | **3** |
| 2. | Suppose that *X* is the number of times a shooter hits a target in a competition. If the distribution of *X* is binomial, with probability of success of 0.67, calculate the probability that a shooter who takes five shots will hit the target three times.  Pr(X=3) = (0.67(0.33  = 0.3275 | **2** |
| 3. | A multiple choice test has 10 questions, each of whci has five possible answers. Find the probabillity that a student who guesses the answer to each question will have:   1. No correct answers   = 0.1074   1. 5 or more correct answers   Classpad 0.0328   1. At least 7 correct answers given that they have at least 5 correct answers.   Classpad 0.0262 P | **4** |
| 4. |  | **7** |