DECEMBER CHALLENGE
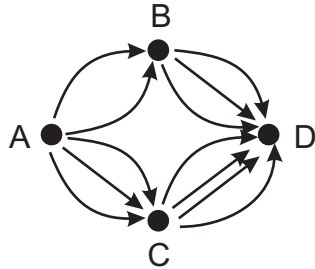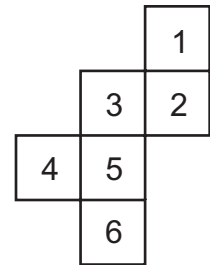
Name _____

*Calculators may **not** be used.*

1. _____ integers How many integers between 200 and 300 have the sum of their digits equal to 15?

2. _____ routes

Following the arrows, how many different routes are there from A to D?

3. _____ When this net of six squares is cut out and folded to form a cube, what is the product of the numbers on the four faces adjacent to the one labeled with a "1"?

4. _____ Define A @ B to be $\dfrac{A}{B}+(A\times B)$. What is the value of 20 @ (4 @ 2)?

5. _____ Five balls are numbered 1 through 5 and placed in a bowl. Josh will randomly choose a ball from the bowl, look at its number and then put it back into the bowl. Then Josh will again randomly choose a ball from the bowl and look at its number. What is the probability that the product of the two numbers will be even and greater than 10? Express your answer as a common fraction.