

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. In regular pentagon $ABCDE$, diagonals \overline{AC} and \overline{AD} meet diagonal \overline{BD} at points X and Y , respectively. Given that $AB = 1$, what is the length of \overline{XY} ? Express your answer as a common fraction in simplest radical form. [*We found many of the angles in the diagram last week, and these will be helpful for finding isosceles triangles and similar triangles.*]

10. Tosh rolls two standard six-sided dice while Brant rolls one standard six-sided die. What is the probability that the larger of Tosh's rolls is (strictly) greater than Brant's roll? Express your answer as a common fraction.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.