1. $\binom{15}{6} = 6435$

All possible scenarios: $\binom{15+6-1}{6} = \binom{20}{6} = 38760$

$6435 / 38760 \approx 16.6\%$

2. even integers: $1/2$

that start with 2 odd digits:

$$\frac{\left( \left(\frac{1}{2}\right)\left(\frac{4}{10}\right)\left(\frac{3}{10}\right)\left(\frac{2}{10}\right)\left(\frac{5}{10}\right) + \underset{\text{odd odd}}{} \right)^5 + \text{Don't Know}}{\left(\left(\frac{1}{10}\right)^5\right)^8}$$

$$2\left(\frac{1}{2}\right)\left(\frac{4}{10}\right)\left(\frac{3}{10}\right)\left(\frac{5}{10}\right)\left(\frac{4}{10}\right) + \underset{\text{odd even}}{}$$

$$\left(\frac{1}{2}\right)\left(\frac{4}{10}\right)\left(\frac{5}{10}\right)\left(\frac{4}{10}\right)\left(\frac{3}{10}\right)$$

3. Yes. if B occurs, there is a $1/3$ chance of A occuring.

4. $\binom{4}{1}\binom{13}{5} / \binom{52}{5} = 0.0019807923$

$.19807923\%$

$100\%$ $\approx 504.85$

5. Don't know.