

Solutions

Exercises:

1. $\binom{2}{1}\binom{2}{2}\binom{3}{2} = 6$

2. $\frac{7!}{2!2!} = 1260$

Problem Set:

1. $\binom{2}{1}\binom{3}{1}\binom{5}{1} = 30$

2. $\binom{4}{2}\binom{48}{3} + \binom{4}{3}\binom{48}{2} + \binom{4}{4}\binom{48}{1}$

3. $9 \times 8 \times 7 = 504$

4. $\binom{20}{3}\binom{10}{2}$

5. a) $\frac{5!}{2!}$ b) $\frac{30!}{25!2!}$

6. $6!;$ $5!2!$

7. $P = \frac{12 \times 8 \times 4}{52 \times 51 \times 50}$

8. $P = \frac{5}{6} \times \frac{1}{6} = \frac{5}{36}$

9. $\binom{3}{1}\binom{7}{5} + \binom{7}{6}$