

Geometry Homework #13 – Answer Key

1) $\frac{32}{33}$

2) $\frac{1}{270,725} \cdot \frac{1}{6,497,400}$

3) $\frac{17}{69,300}$

4) $\frac{1}{8}, \frac{1}{216}, \frac{1}{1,728}$

5) \$320

6) 21 combinations and 2,520 patterns

7) 1 6 15 20 15 6 1

8) 56 teams and 336 unique teams

9) 1 9 36 84 126 126 84 36 9 1

10) 35 combinations

11) $x^5 + 5x^4y + 10x^3y^2 + 10x^2y^3 + 5xy^4 + y^5$

12) 84 combinations and 60,480 patterns

13) $x^8 + 8x^7y + 28x^6y^2 + 56x^5y^3 + 70x^4y^4 + 56x^3y^5 + 28x^2y^6 + 8xy^7 + y^8$

14) 1 15 105 455 1365 3003 5005 6435 6435 5005 3003 1365 455 105 15 1

15) $x^3 - 9x^2y + 27xy^2 - 27y^3$

16) 20 combinations and 120 ways when the order matters

17) 19,487,171

18) $81x^4 - 216x^3y + 216x^2y^2 - 96xy^3 + 16y^4$

19) 285,311,670,611

20) 1 14 91 364 1001 2002 3003 3432 3003 2002 1001 364 91 14 1