

11-25-13
3rd Trig

Ch. 4 PT 2

$$\textcircled{16} \frac{6!}{3!5!} = \frac{\cancel{6} \cdot \cancel{5} \cdot \cancel{4} \cdot \cancel{3} \cdot \cancel{2} \cdot \cancel{1}}{\cancel{3} \cdot \cancel{2} \cdot \cancel{1} \cdot \cancel{5} \cdot \cancel{4} \cdot \cancel{3} \cdot \cancel{2} \cdot \cancel{1}} = \frac{6}{6} = 1$$

$$\textcircled{15} \frac{24!}{22!4!} = \frac{\cancel{24} \cdot \cancel{23} \cdot \cancel{22} \cdot \dots \cdot \cancel{2}}{\cancel{4} \cdot \cancel{3} \cdot \cancel{2} \cdot \cancel{1} \cdot \cancel{22} \cdot \cancel{21} \cdot \dots \cdot \cancel{2}} = 23$$

Ch. 4 PT 1

$$\textcircled{10} \perp \text{ to } y = -2x - 5$$

$$m = -2$$

$$\therefore \perp m = \frac{1}{2} \quad (-2, 1)$$

$$y - y_1 = m(x - x_1)$$

$$y - 1 = \frac{1}{2}(x + 2)$$

$$\frac{y - 1}{+1} = \frac{\frac{1}{2}x + 1}{+1}$$

$$\frac{y}{-\frac{1}{2}x} = \frac{\frac{1}{2}x + 2}{-\frac{1}{2}x}$$

$$-2 \left[-\frac{1}{2}x + y = 2 \right]$$

$$x - 2y = -4$$

Ch. 4 PT 1

$$\textcircled{3} (3, n) (9, n+6)$$

$$\text{Slope} = \frac{\Delta y}{\Delta x} = \frac{n+6-n}{9-3} = \frac{6}{6} = 1$$

$$\text{Distance} = \sqrt{\Delta x^2 + \Delta y^2}$$

$$= \sqrt{6^2 + 6^2}$$

$$= \sqrt{72} \approx 8.5$$

$$\text{Midpoint} = \left(\frac{9+3}{2}, \frac{n+n+6}{2} \right)$$

$$\left(\frac{12}{2}, \frac{2n+6}{2} \right)$$

$$(6, n+3)$$

Ch. 4 PT 2

(18) $\frac{4}{\#1} \frac{4}{\#2} \frac{4}{\#3} \dots 4^{10}$

- (20) 5 toppings: ~~$5nC5 = 1$~~
4 toppings: $5nC4 = 5$
3 toppings: $5nC3 = 10$
2 toppings: $5nC2 = 10$
1 toppings: ~~$5nC1 = 5$~~
0 toppings: ~~$5nC0 = 1$~~

32

Ch 4 PT 2

(22) $\frac{10}{D} \cdot \frac{10}{D} \cdot \frac{26}{L} \cdot \frac{26}{L} \cdot \frac{26}{L} \cdot \frac{10}{D} \cdot \frac{10}{D}$

Ch 4 PT 2

(23) Girls: $8nC2 = 28$
Boys: $6nC3 = 20$
560

11-25-13
4th Trig

Ch. 4 PT 2

(6) (1,7) (3,27)

$$y - y_1 = m(x - x_1)$$

$$m = \frac{\Delta y}{\Delta x} = \frac{27 - 7}{3 - 1} = \frac{20}{2} = 10$$

$$y - 7 = 10(x - 1)$$

$$\begin{array}{r} y - 7 = 10x - 10 \\ +7 \quad \quad +7 \\ \hline y = 10x - 3 \end{array}$$

(19) $5nC2 = 1326$

(20) 5 toppings: $5nC5 = 1$
4 toppings: $5nC4 = 5$
3 toppings: $5nC3 = 10$
2 toppings: $5nC2 = 10$
1 toppings: $5nC1 = 5$
0 toppings: $5nC0 = 1$
32

(22) $\frac{10}{D} \cdot \frac{10}{D} \cdot \frac{26}{L} \cdot \frac{26}{L} \cdot \frac{26}{L} \cdot \frac{10}{D} \cdot \frac{10}{D}$

(24) E N C I P L

$$\frac{6}{1^6} \frac{5}{2^1} \frac{4}{3} \frac{3}{4} \frac{2}{5} \frac{1}{6} = 720$$

Ch. 4 PT 1

(15) $\frac{6!}{2!4!} = \frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{2 \cdot 1 \cdot 4 \cdot 3 \cdot 2 \cdot 1} = \frac{30}{2} = 15$

(2) (1,-5) (-1,-3)

$$\text{Slope} = \frac{\Delta y}{\Delta x} = \frac{-5 + 3}{1 + 1} = \frac{-2}{2} = -1$$

$$\begin{aligned} \text{distance} &= \sqrt{\Delta x^2 + \Delta y^2} \\ &= \sqrt{2^2 + 2^2} \\ &= \sqrt{8} \approx 2.8 \end{aligned}$$

midpoint =