

12-15-17

Review

$$(92) \quad [-2 \ 5] \cdot \begin{bmatrix} 2 & 1 & 0 \\ -1 & 2 & 3 \end{bmatrix}$$

$$1 \times 2 \quad 2 \times 3$$

ANSWER

$$-2 \cdot 2 + 5 \cdot -1 \quad -2 \cdot 1 + 5 \cdot 2 \quad -2 \cdot 0 + 5 \cdot 3$$

$$[-9 \quad 8 \quad 15]$$

$$(105) \text{ H.A. } y = \frac{2x^3 + 5}{3x^2 + 1}$$

Bobo Both Eats DC  
 $y=0$  None

$$(106) \text{ Vertical A of } y = \frac{2x^3 + 5}{x+4}$$

$$\begin{array}{r} x+4=0 \\ -4 \quad -4 \\ \hline x = -4 \end{array}$$

78 parallel to  $12x + 2y = 8$

$(-1, 2)$

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

$$y - 2 = -6(x + 1)$$

$$\begin{array}{r} y - 2 = -6x - 6 \\ \hline +2 \qquad \qquad +2 \end{array}$$

$$\begin{array}{r} y = -6x - 4 \\ \hline +6x \quad +6x \end{array}$$

$$6x + y = -4$$

Need his slope

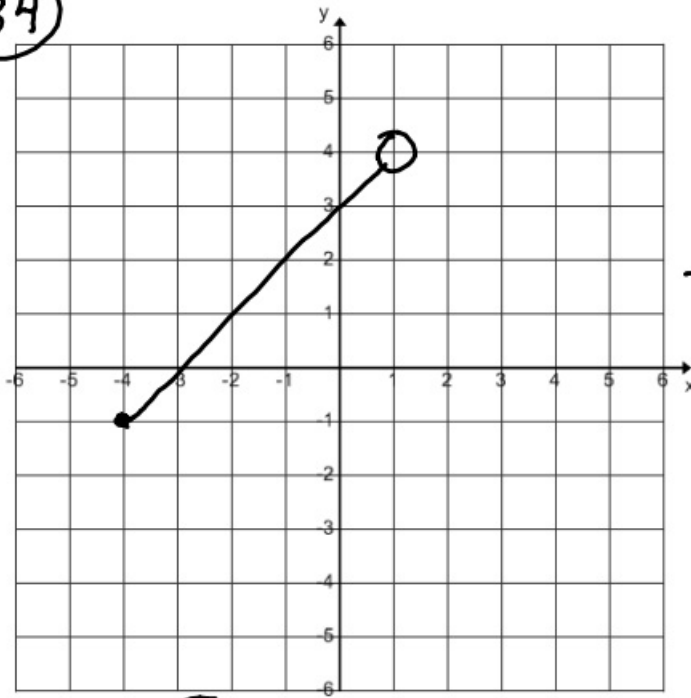
$$\begin{array}{r} 12x + 2y = 8 \\ -12x \qquad -12x \\ \hline 2y = -12x + 8 \\ \hline \frac{2y}{2} = -\frac{12x}{2} + \frac{8}{2} \end{array}$$

$$y = -6x + 4$$

$$m = -6$$

34

34



$$-4 \leq x < 1$$

35 Range  $-1 \leq y < 4$

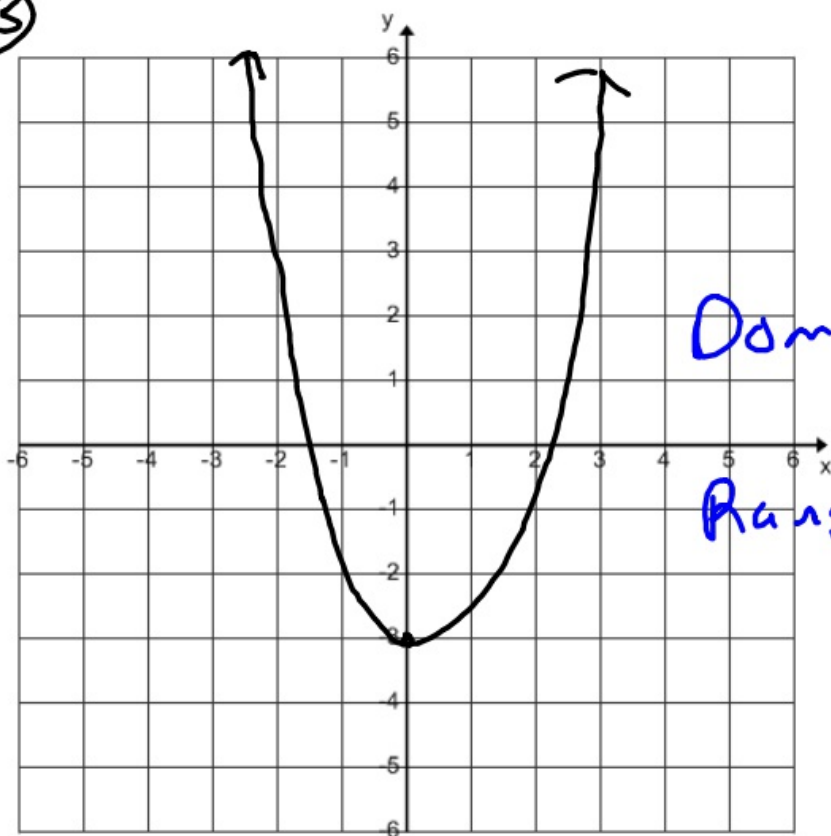
13

$$\left(\frac{2}{3}\right)^{-3}$$

$$\left(\frac{2}{3}\right)^{-1 \cdot 3}$$

$$\left(\frac{3}{2}\right)^3 = \frac{3}{2} \cdot \frac{3}{2} \cdot \frac{3}{2} = \frac{27}{8}$$

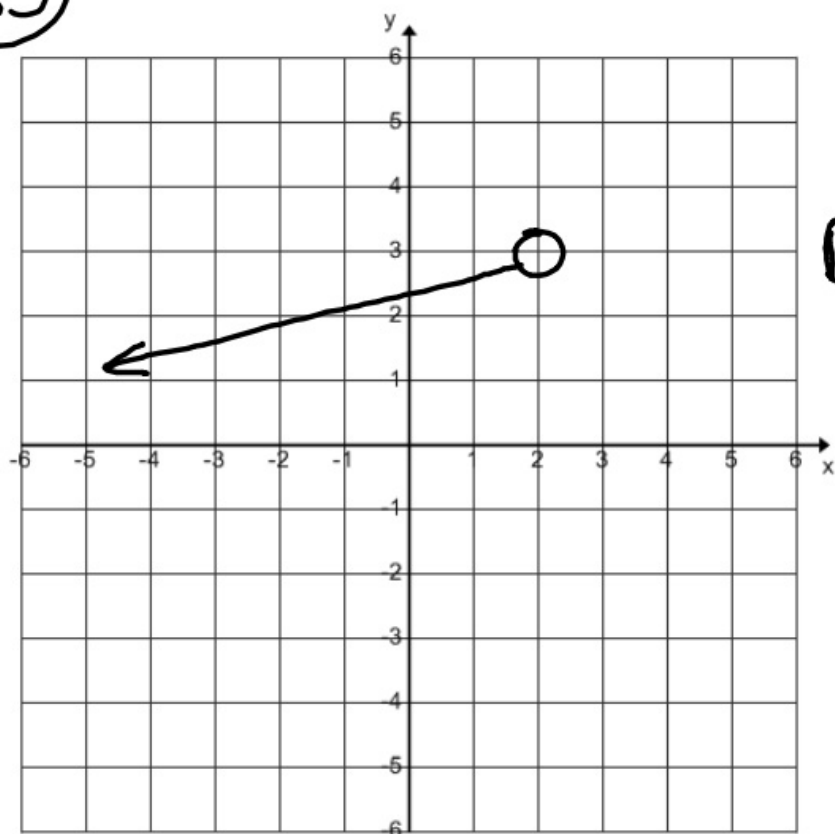
53



Domain  $\mathbb{R}$

Range:  $y \geq -3$

55



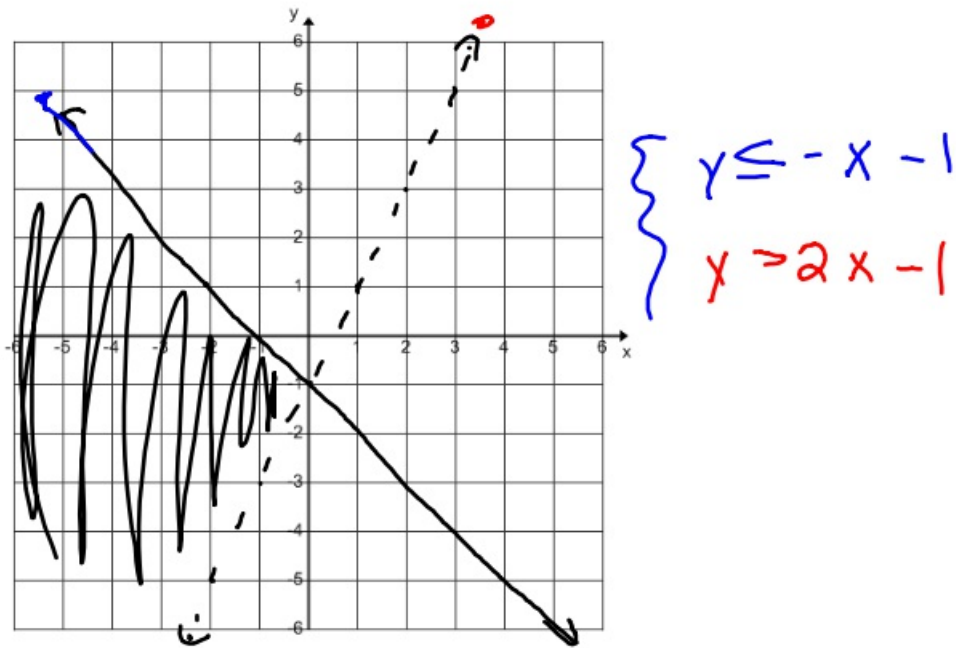
D:  $x < 2$

80

$$\frac{96!}{94! 4!}$$

$$\frac{\cancel{96 \cdot 95 \cdot 94 \cdot 93 \cdot 92 \cdot \dots \cdot 2 \cdot 1}}{\cancel{94 \cdot 93 \cdot \dots \cdot 2 \cdot 1} \quad 4 \cdot 3 \cdot 2 \cdot 1}$$

$$\begin{aligned} \frac{96 \cdot 95}{4 \cdot 3 \cdot 2 \cdot 1} &= \frac{9120}{24} \\ &= 380 \end{aligned}$$



⑩⑧ slant  $y = \frac{2x^2 + 3x + 1}{x + 2}$

$$x+2 \overline{) 2x^2 + 3x + 1}$$

$$\underline{-(2x^2 + 4x)}$$

$$-x + 1$$

$$\underline{-x - 2}$$

$y = 2x - 1$

②①  $f(x) = 3x - 10$        $g(x) = 2x + 1$

$f(g(x))$

$f(2x+1) = 3 \cdot \boxed{2x+1} - 10$

$6x + 3 - 10$

$6x - 7$

①⑧ Factor  $(3n^3 + 12n^2) + (2n + 8)$

$$\underline{3n^2}(n+4) + \underline{2}(n+4)$$

$$(n+4)(\underline{3n^2} + \underline{2})$$

③⑦  $y - y_1 = m(x - x_1)$        $m = 4$  (2,5)

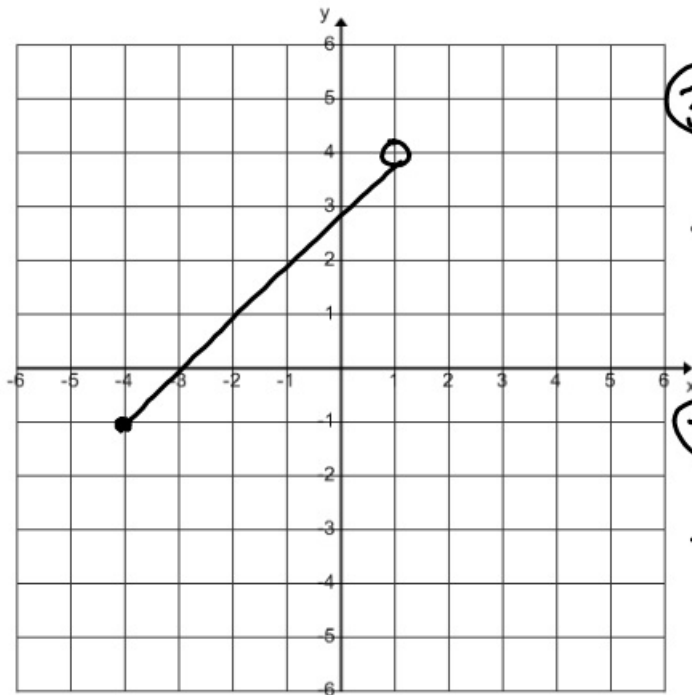
$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ y - 5 & = & 4(x - 2) \end{array}$$

$$\begin{array}{r} y - 5 = 4x - 8 \\ +5 \qquad \qquad +5 \end{array}$$

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$$y = 4x - 3$$

12-15-17 3<sup>rd</sup> Trig



(34) Domain

$$-4 \leq x < 1$$

(35) Range

$$-1 \leq y < 4$$

(68) Solve  $x^3 + 6x^2 + 5x = 0$

$$x(x^2 + 6x + 5) = 0$$

$$x(x+5)(x+1) = 0$$

$$abc = 0$$

$$a=0 \text{ or } b=0 \text{ or } c=0$$

$$x=0 \text{ or } \begin{array}{r} x+5=0 \\ -5 \quad -5 \\ \hline \end{array} \text{ or } \begin{array}{r} x+1=0 \\ -1 \quad -1 \\ \hline \end{array}$$

$$\text{or } x=-5 \text{ or } x=-1$$



(66)

Girls

Boys

10 ncr 2

8 ncr 3

45

X

56

2520

(70)

slope  $\perp$  to  $2x - 4y = 10$

$$\frac{-2x}{-2x} \quad \frac{-2x}{-2x}$$

$$\frac{-4}{-4}y = \frac{-2x + 10}{-4} \quad \frac{-2x}{-4} \quad \frac{10}{-4}$$

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

$$m = \frac{1}{2}$$

$$\therefore \perp m = -2$$

(63)

$$\frac{10}{1''} \quad \frac{10}{2''} \quad \frac{10}{3''} \quad \frac{10}{4''} \quad \frac{10}{5''}$$

100,000

(59)

$$\sum_{n=-2}^3 2^{-n}$$

$$n = -2 \quad 2^{-(-2)} = 4$$

$$n = -1 \quad 2^{-(-1)} = 2$$

$$n = 0 \quad 2^{-0} = 1$$

$$n = 1 \quad 2^{-1} = \frac{1}{2}$$

$$n = 2 \quad 2^{-2} = \frac{1}{4}$$

$$n = 3 \quad 2^{-3} = \frac{1}{8}$$

9

$$\textcircled{75} \quad (8, 4) \quad m = -1$$

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

$$y - 4 = -1(x - 8)$$

$$y - 4 = -x + 8$$

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$$y = -x + 12$$

$$\textcircled{81} \quad \frac{76!}{74! 3!} = \frac{76 \cdot 75 \cdot \cancel{74} \cdot \cancel{73} \cdot \dots \cdot \cancel{2} \cdot \cancel{1}}{\cancel{74} \cdot \cancel{73} \cdot \dots \cdot \cancel{2} \cdot \cancel{1} \quad 3 \cdot 2 \cdot 1}$$

$$\frac{76 \cdot 75}{6} = \frac{5700}{6}$$

$$= 950$$

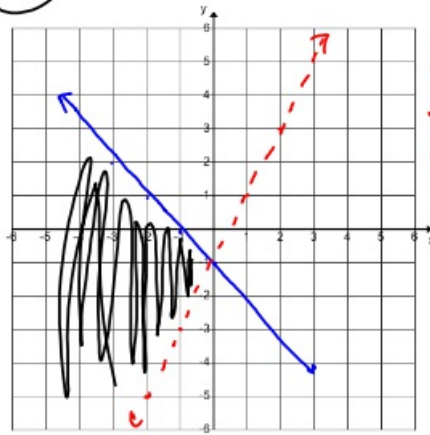
$$\textcircled{85} \quad {}_{20}P_3$$

$$1140$$

$$\textcircled{26} \quad (1, 4) \quad (3, 10)$$

$$m = \frac{\Delta y}{\Delta x} = \frac{10 - 4}{3 - 1} = \frac{6}{2} = 3$$

89



$$\begin{cases} y \leq -x - 1 \\ y > 2x - 1 \end{cases}$$

83

$$\underline{36} \cdot \underline{36} \cdot \underline{36} = 46,656$$

103

H.A. of  $y = \frac{3x^5 + 2}{4x^2 + 2x + 1}$

Both  
None

106

$$y = \frac{2x^3 + 5}{x + 4}$$

Vertical  $x + 4 = 0$   
 $\frac{-4 - 4}{x = -4}$

108

$$y = \frac{2x^2 + 3x + 1}{x + 2}$$

$$\begin{array}{r} 2x - 1 \\ x + 2 \overline{) 2x^2 + 3x + 1} \\ \underline{-(2x^2 + 4x)} \phantom{+ 1} \\ -x + 1 \\ \underline{-(-x - 2)} \phantom{+ 1} \\ 3 \phantom{+ 1} \end{array}$$

$y = 2x - 1$

$$\textcircled{42} \quad \begin{bmatrix} 2 & 3 \\ 2 & 4 \end{bmatrix} + \begin{bmatrix} 3 & -2 \\ -1 & -4 \end{bmatrix}$$

$$\begin{bmatrix} 5 & 1 \\ 1 & 0 \end{bmatrix}$$

$$\textcircled{27} \quad (n, 6) \overbrace{(n+2, 7)}$$

$$m = \frac{7-6}{n+2-n} = \frac{1}{2}$$

12-15-17 4<sup>th</sup> Trig

(78) parallel to  $12x + 2y = 8$   
 $-12x \quad -12x$   
 $(-1, 2)$

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

$$y - 2 = -6(x - 1)$$

$$\begin{array}{r} y - 2 = -6x - 6 \\ +2 \qquad +2 \\ \hline \end{array}$$

$$y = -6x - 4$$

$$\frac{2y}{2} = \frac{-12x + 8}{2}$$

$$y = -6x + 4$$

$$m = -6$$

(44)  $\begin{bmatrix} 2 & 3 \\ 2 & 4 \end{bmatrix} \cdot \begin{bmatrix} 3 & -2 \\ -1 & -4 \end{bmatrix}$

$$2 \cdot 3 + 3 \cdot -1$$

$$2 \cdot -2 + 3 \cdot -4$$

$$2 \cdot 3 + 4 \cdot -1$$

$$2 \cdot -2 + 4 \cdot -4$$

$$\begin{bmatrix} 3 & -16 \\ 2 & -20 \end{bmatrix}$$

(28) D  $(-3, -2)$   $(1, -6)$

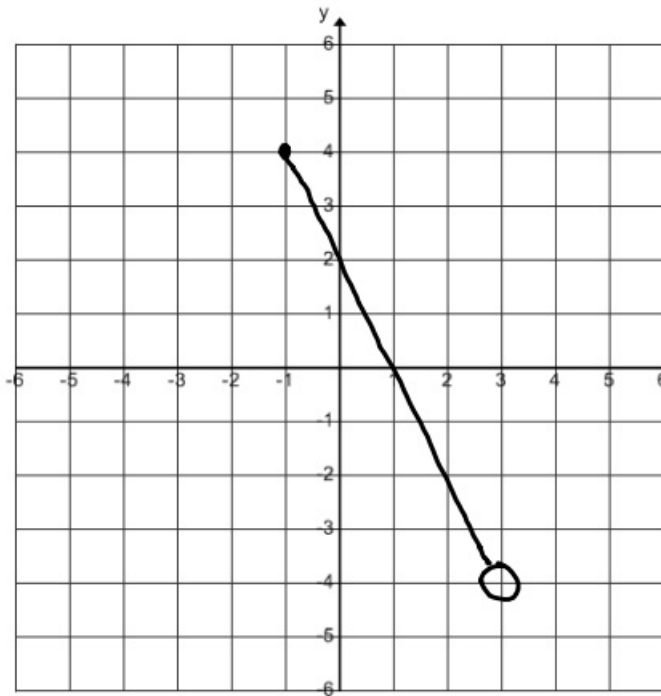
$$D = \sqrt{\Delta x^2 + \Delta y^2}$$

$$\sqrt{4^2 + 4^2}$$

$$\sqrt{32}$$

$$\begin{array}{l} 32 \\ \swarrow \searrow \\ 2 \quad 16 \\ \quad \swarrow \searrow \\ \quad 4 \quad 4 \\ \quad \swarrow \searrow \\ \quad 2 \quad 2 \end{array} \quad = \sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

$2 \cdot 2 \sqrt{2}$   
 $4\sqrt{2}$



(36) Domain  
 $-1 \leq x < 3$

(37) Range  
 $-4 < y \leq 4$

(41) 
$$\begin{cases} 2x - y = 8 \\ 3x + y = 12 \end{cases}$$


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$$5x = 20$$

$$x = 4$$

$$3 \cdot 4 + y = 12$$

$$12 + y = 12$$

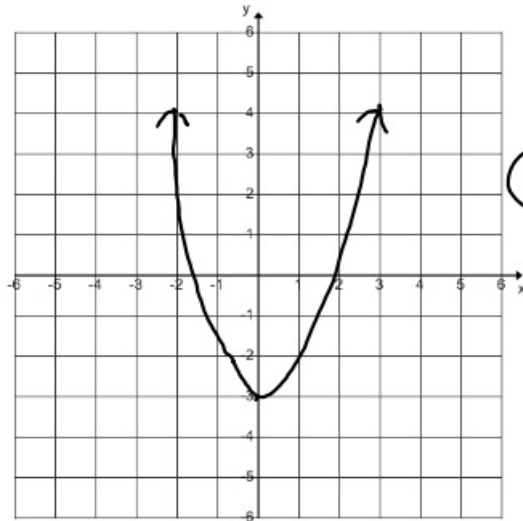
$$y = 0$$

(108) Slant 
$$y = \frac{2x^2 + 3x + 1}{x + 2}$$

$$\begin{array}{r} 2x - 1 \\ x + 2 \overline{) 2x^2 + 3x + 1} \\ \underline{-(2x^2 + 4x)} \phantom{+ 1} \\ -x + 1 \phantom{+ 1} \\ \underline{-(-x - 2)} \phantom{+ 1} \\ 3 \phantom{+ 1} \end{array}$$

$$y = 2x - 1$$

$$\begin{array}{r} -x + 1 \\ -x - 2 \\ \hline \end{array}$$



(54) Range  
 $y \geq -3$

(63)

$$\frac{10}{100,000} \quad \frac{10}{100,000} \quad \frac{10}{100,000} \quad \frac{10}{100,000} \quad \frac{10}{100,000}$$

(76)

$\perp$  to  $y = -4x - 5$   $(-8, 2)$

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

$$y - 2 = \frac{1}{4}(x + 8)$$

$$y - 2 = \frac{1}{4}x + 2$$

$$\begin{array}{r} +2 \\ +2 \end{array}$$

$$y = \frac{1}{4}x + 4$$

$$\begin{array}{r} -\frac{1}{4}x \\ -\frac{1}{4}x \end{array}$$

$$-4 \left[ -\frac{1}{4}x + y = 4 \right]$$

$$x - 4y = -16$$

$m = -4$   
 $\therefore +m = \frac{1}{4}$

$$\textcircled{80} \quad \frac{96!}{94! \cdot 4!}$$

$$\frac{\cancel{96 \cdot 95 \cdot 94 \cdot 93 \cdot \dots \cdot 2 \cdot 1}}{\cancel{94 \cdot 93 \cdot \dots \cdot 3 \cdot 2 \cdot 1} \cdot 4 \cdot 3 \cdot 2 \cdot 1}$$

$$\frac{96 \cdot 95}{24} = \frac{9120}{24} = 380$$

$\textcircled{96}$  ← Sean's grade

$\textcircled{84}$  A, B, C, D.

$$\frac{4}{1} \cdot \frac{4}{2} \cdot \frac{4}{3} \cdot \frac{4}{4} \cdot \dots \cdot \frac{4}{10} = 4^{10}$$