12-13-13

3rd Trig

(75) $\begin{cases} 5x-2y=2 \xrightarrow{\times 3} 15x-6y=6 \\ 3x-3y=-15 \xrightarrow{\times -5} -15x+15y=75 \end{cases}$

$9y=81$

$y=9$

(62) $\perp$ to $y=\boxed{-2}x+4 \quad (4,1)$

$m=-2$

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

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

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

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

$+1 \quad +1$

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

(87) $2<x\leq 5$

$(2, 5]$

start end

(86) $x\leq 3$

$(-\infty, 3]$

(70) $\perp$ to $5x-4y=2 \quad (6,7)$

$-5x \quad -5x$

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

$y=\boxed{\frac{5}{4}}x-\frac{1}{2}$

$\therefore \perp m=-\frac{4}{5}$

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

$y-7=-\frac{4}{5}(x-6)$

$5\left[y-7=-\frac{4}{5}x+\frac{24}{5}\right]$

$5y-35=-4x+24$

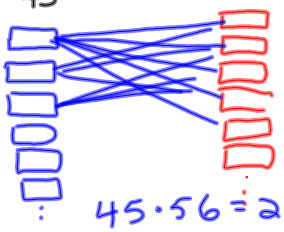
$+35 \quad +35$

$5y=-4x+59$

$+4x \quad +4x$

$4x+5y=59$

(109) Girls: $10 nCr 2 = 45$ Boys: $8 nCr 3 = 56$



$45 \cdot 56 = 2520$

(20) $[(x-1)(x+1)][(x+3)(x-3)]$

$(x^2-1)\ (x^2-9)$

$x^4 - 10x^2 + 9$

(157) $\frac{2}{1}\ \frac{2}{2}\ \frac{2}{3}\ \frac{2}{4}\ \frac{2}{5}$

$\frac{3}{6}\ \frac{3}{7}\ \frac{3}{8}\ \frac{3}{9}\ \frac{3}{10} =$

7,776

(152) $n-2 \overline{)\ n^2+3n-1}$

$n + 5 + \frac{9}{n-2}$

$-(n^2 - 2n)$

$5n - 1$

$-(5n - 10)$

$+9$

(132) parallel to $12x+2y=8$ $(-1,2)$

$-12x \quad -12x$

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

$y = -6x + 4$ $\quad m = -6$ //

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

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

$y - 2 = -6x - 6$

$+2 \quad +2$

$y = -6x - 4$

$+6x \quad +6x$

$6x + y = -4$

(114) inverse of $f(x) = x^2 - 5$

① $y = x^2 - 5$

② $x = y^2 - 5$

$+5 \quad +5$

③ $\sqrt{x+5} = \sqrt{y^2}$

$\pm\sqrt{x+5} = f^{-1}(x)$

$\sqrt{y^2} = \sqrt{100}$

$y = \pm 10$

12-13-13

4th Trig

(50) domain of $f(x)=\frac{x^3+4x-1}{\sqrt{x}}$

$\sqrt{x}$ $x \geq 0$ $x>0$

x cannot be 0

(116) ⊥ to $2x-4y=10$

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

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

$\perp m=-2$

(114) inverse of $f(x)=x^2-5$

① $y=x^2-5$

② $\frac{x+5=y^2}{\sqrt{x+5}=\sqrt{y^2}}$ $\quad \sqrt{y^2}=\sqrt{16}$, $y=\pm 4$

$\pm\sqrt{x+5}=y$

(107)

26	26	26	10	10	10
L	L	L	D	D	D

17,576,000

(130) ⊥ to $y=-4x-5$ $(-8,2)$

$m=-4$

$\perp m=\frac{1}{4}$

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

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

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

$\frac{+2 \quad +2}{4\left[y=\frac{1}{4}x+4\right]}$

$4y=x+16$

$\frac{-x \quad -x}{-1[-x+4y=16]}$

$x-4y=-16$

(173) $\begin{cases} 2x+3y=8 \\ 4x+2y=12 \end{cases}$ $\xrightarrow{M-2}$ $-4x-6y=-16$

$4x+2y=12$

$-4y=-4$

$y=1$

(153) $(2a^{-3})^{-2}$

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

$\left(\frac{a^3}{2}\right)^2 = \frac{a^3}{2}\cdot\frac{a^3}{2} = \frac{a^6}{4}$

(157) $\frac{2\cdot 2\cdot 2\cdot 2\cdot 2}{3\cdot 3\cdot 3\cdot 3\cdot 3}$

$7{,}776$

(143) $20\ ncr\ 3 = 1140$

(145) $n-5 \overline{)\ n^2+n-1}$

$n+6+\frac{29}{n-5}$

$-(n^2-5n)$

$6n-1$

$-(6n-30)$

29

(80) DE

$\begin{bmatrix} 2 & 3 & 1 \end{bmatrix} \begin{bmatrix} 3 \\ 4 \\ 2 \end{bmatrix}$

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

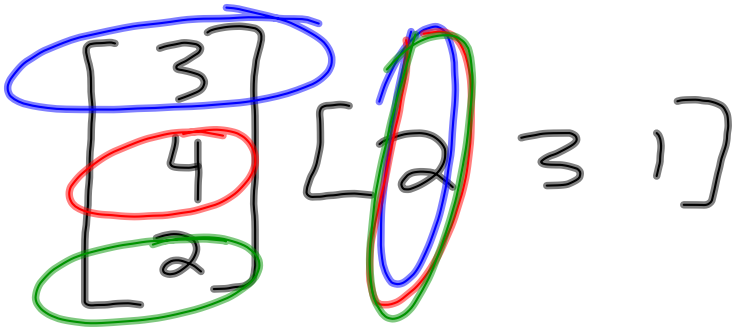
final size of answer

$6+12+2$

$[20]$

(81) $DE = ED$

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



$$\begin{bmatrix} 6 & 9 & 3 \\ 8 & 12 & 4 \\ 4 & 6 & 2 \end{bmatrix}$$

(94) A: 4×5

B: 3×3

C: 4×5

$A + C = 4 \times 5 + 4 \times 5$

4×5