Math 222-Quiz-1(solution) (53402)

**Choose the correct answer**

1. Expansion of the determinant $\left[\begin{matrix}2&1&3\\0&5&0\\3&2&-1\end{matrix}\right]$ is equal to

 (a) $-55$ (b) $0$ (c) $55$ (d) $35$

1. If $ \frac{2}{x}-\frac{3}{y}=7 $and $ \frac{1}{x}+\frac{5}{y}=-3$, then the value of $x$ is equal to:

 (a) $-\frac{1}{2}$ (b) $\frac{1}{2}$ (c) $2$ (d) $\left(\frac{1}{2},-1\right)$

1. If $\frac{1}{x}+\frac{1}{x+8}=\frac{1}{3} $ the value for $x$ is equal to

 (a) $\left\{4,-6\right\}$ (b) $\left\{-4,-6\right\}$ (c) $\left\{-4,6\right\}$ (d) $\left\{4,6\right\}$

1. If $x^{2}-2xy+y^{2}-4=0$, then the value for $x interms of y$ is equal to:

 (a) $x=y\pm 2$ (b) $x=y\pm 4$ (c*)* $x=y\pm \sqrt{y^{2}+16}$ (d) $x=-y\pm 2$

1. The number of solutions of the system $-5x+2y=-1$ and $\frac{5}{2}x-y=\frac{1}{2} ,$ is

 (a) $0$ (b) $ 1$ (c) $2$ (d) infinitely many

1. Simplification of the fraction $\frac{x^{2}+xy-6y^{2}}{2x^{2}-5xy+2y^{2}}$ is

 (a) $\frac{x+3y}{2x-y}$ (b) $\frac{x-3y}{2x+y}$ (c) $\frac{x-3y}{x-2y}$ (d) $\frac{x+3y}{x-2y}$

1. Simplification of the complex fraction $\frac{x- \frac{3x+3y}{x+y}}{x- \frac{2x+2y}{x+y}}$ is

 (a) $\frac{x-3}{x-2}$ (b) $\frac{x+3}{x+2}$ (c) $\frac{x-2}{x-3}$ (d) $\frac{x+2}{x+3}$

1. The partial fractions decomposition of $\frac{10-2x+x^{2}}{\left(X-1\right)\left(x^{2}+9\right)}$ is

 (a) $\frac{ax+b}{\left(x-1\right)}-\frac{cx+d}{\left(x^{2}+9\right)}$ (b) $\frac{a}{\left(x-1\right)}-\frac{bx+c}{\left(x^{2}+9\right)}$ (c) $\frac{a}{\left(x-1\right)}+\frac{b}{\left(x+3\right)}+\frac{c}{\left(x-3\right)}$ (d) $\frac{a}{\left(x-1\right)}+\frac{b}{\left(x+3\right)}+\frac{c}{\left(x+3\right)}$

1. The factorization of the expression $27x^{3}-1$ is equal to

 (a) $\left(3x-1\right)\left(9x^{2}+3x+1\right)$ (b) $\left(3x+1\right)\left(9x^{2}-3x+1\right)$

 (c) $\left(3x+1\right)\left(9x^{2}+3x+1\right)$ (d) $\left(3x-1\right)\left(9x^{2}-3x+1\right)$

1. $a^{2}-ab-2b^{2}+4a+4b$ is equal to

 (a) $\left(a+b\right)\left(a-2b+4\right)$ (b) $\left(a+b\right)\left(a+2b+4\right)$

 (c) $\left(a+b\right)\left(a-2b-4\right)$ (d) $\left(a-b\right)\left(a-2b+4\right)$