

Sample questions Mathematics

S. No.	Questions	Answer	Marks
1.	$0.121212\dots =$ (i) $\frac{12}{101}$ (ii) $\frac{1212}{10000}$ (iii) $\frac{121}{999}$ (iv) $\frac{12}{99}$		1
2.	$1.0000\dots =$ (i) $\frac{1}{0.9999\dots}$ (ii) $\frac{10.000\dots}{9.9}$ (iii) $\frac{1.1111\dots}{11.1111\dots} \times 11$ (iv) $.9 + \frac{1}{9}$		1
3.	$x^2 > x $, if (i) $x > 0$ (ii) $-1 < x < 1$ (iii) $x < 0$ (iv) $x < -1$		1
4.	$x^2 - 3x + 2 < 0$ if (i) $x > 2$ (ii) $x < 1$ (iii) $0 < x < 1$ (iv) $1 < x < \frac{3}{2}$		1
5.	A circle through the intersection of $x^2 + y^2 = 2x$ & $2x = 1$ is (i) $x^2 + y^2 = 2$ (ii) $x^2 + y^2 + 4x - 3 = 0$ (iii) $2x^2 + 2y^2 - 4x - 1 = 0$ (iv) $x^2 + y^2 = 2x - 1$		1

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6.	$x - \alpha y = a$ & $x + \beta y = b$ are two lines and so $(x - \alpha y)(x + \beta y) = ab$ represents (i) a pair of straight lines (ii) a pair of lines if $a=b=0$ (iii) a pair of lines if $ab=1$ (iv) none of these		1
7.	The distance between $3x + 4y = 10$ & $3x + 4y = 20$ is (i) 10 (ii) 2 (iii) 5 (iv) $7\frac{1}{2}$		1
8.	The limit $\lim_{x \rightarrow \infty} (x^2 + 1)^{\frac{1}{x}} =$ (i) e (ii) 1 (iii) ∞ (iv) 0		1
9.	The limit $\lim_{x \rightarrow 0} (x + 1)^{\frac{1}{x}} =$ (i) e (ii) 1 (iii) ∞ (iv) 0		1
10.	$\lim_{x \rightarrow 2} \frac{x^3 - 8}{x^2 - 4} =$ (i) ∞ (ii) 2 (iii) 3 (iv) 0		1