

Math One Marks – JSON Format (REAL 40 QUESTIONS)

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{
  "title": "Math One Marks",
  "subject": "Mathematics",
  "class": "10",
  "type": "MCQ",
  "markPerQuestion": 1,
  "totalQuestions": 40,
  "questions": [
    {
      "id": 1,
      "question": "If  $n(A) = 6$  and  $B = \{1,3\}$ , then  $n(A \cap B)$  is",
      "options": [
        "6",
        "12",
        "18",
        "3"
      ],
      "answer": 1
    },
    {
      "id": 2,
      "question": "If two ordered pairs  $(x, y)$  and  $(2, \sqrt{2})$  are equal, then  $(x, y)$  is",
      "options": [
        "(5, 1)",
        "(2, \sqrt{2})",
        "(2, 3)",
        "(3, \sqrt{2})"
      ],
      "answer": 1
    },
    {
      "id": 3,
      "question": "The number of relations from a set with 2 elements to a set with 3 elements is",
      "options": [
        "6",
        "8",
        "64",
        "9"
      ],
      "answer": 2
    },
    {
      "id": 4,
      "question": "A function which maps every element to itself is called",
      "options": [
        "One\to",
        "Onto",
        "Identity",
        "Many\to"
      ],
      "answer": 2
    },
    {
      "id": 5,
      "question": "If a function is both one\to and onto, it is called",
      "options": [
        "Identity",
        "Bijective",
        "Into",
        "Constant"
      ],
      "answer": 1
    },
    {
      "id": 6,
      "question": "The HCF of the least prime number and the least composite number is",
      "options": [
        "1",
        "2",
        "3",
        "4"
      ]
    }
  ]
}
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],
"answer": 1
},
{
  "id": 7,
  "question": "The remainder when the cube of any integer is divided by 9 is",
  "options": [
    "0, 1, 8",
    "1, 4, 8",
    "0, 3, 6",
    "2, 5, 7"
  ],
  "answer": 0
},
{
  "id": 8,
  "question": "The 10th term of an A.P. with first term 1 and common difference 4 is",
  "options": [
    "36",
    "37",
    "40",
    "41"
  ],
  "answer": 1
},
{
  "id": 9,
  "question": "The number of terms in the G.P. 5, 20, 80, \u2026 , 20480 is",
  "options": [
    "6",
    "7",
    "8",
    "9"
  ],
  "answer": 1
},
{
  "id": 10,
  "question": "The sum of the first n natural numbers is",
  "options": [
    "n\u00b2",
    "n(n+1)",
    "n(n+1)/2",
    "n\u00b2/2"
  ],
  "answer": 2
},
{
  "id": 11,
  "question": "A system of linear equations is inconsistent if the lines",
  "options": [
    "intersect at one point",
    "intersect at two points",
    "are parallel",
    "coincide"
  ],
  "answer": 2
},
{
  "id": 12,
  "question": "The graph of a linear polynomial is a",
  "options": [
    "Circle",
    "Parabola",
    "Straight line",
    "Hyperbola"
  ],
  "answer": 2
},
{
  "id": 13,
  "question": "The number of zeroes of a quadratic polynomial is at most",
  "options": [
    "1",
    "2",

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"3",
"0"
],
"answer": 1
},
{
"id": 14,
"question": "The discriminant of the equation  $x^2 + 4x + 4 = 0$  is",
"options": [
"0",
"4",
"8",
"16"
],
"answer": 0
},
{
"id": 15,
"question": "The order of a matrix with 3 rows and 2 columns is",
"options": [
"2 \u00d7 3",
"3 \u00d7 2",
"3 \u00d7 3",
"2 \u00d7 2"
],
"answer": 1
},
{
"id": 16,
"question": "Two triangles are similar if their corresponding angles are",
"options": [
"equal",
"supplementary",
"right angles",
"unequal"
],
"answer": 0
},
{
"id": 17,
"question": "The ratio of the areas of two similar triangles is equal to",
"options": [
"ratio of sides",
"square of ratio of sides",
"cube of ratio of sides",
"ratio of heights"
],
"answer": 1
},
{
"id": 18,
"question": "The angle between a tangent and radius at the point of contact is",
"options": [
"0\u00b0",
"45\u00b0",
"90\u00b0",
"180\u00b0"
],
"answer": 2
},
{
"id": 19,
"question": "The number of tangents drawn from an external point to a circle is",
"options": [
"1",
"2",
"3",
"Infinite"
],
"answer": 1
},
{
"id": 20,
"question": "The distance between the tops of two poles of heights 6 m and 11 m standing 12 m apart is",
"options": [

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"13 m",
"14 m",
"15 m",
"12 m"
],
"answer": 2
},
{
"id": 21,
"question": "The distance between the points (0,0) and (3,4) is",
"options": [
"4",
"5",
"6",
"7"
],
"answer": 1
},
{
"id": 22,
"question": "The slope of a line parallel to the x-axis is",
"options": [
"1",
"\u22121",
"0",
"\u221e"
],
"answer": 2
},
{
"id": 23,
"question": "The equation of a line parallel to the y-axis is",
"options": [
"y = mx + c",
"x = a",
"y = a",
"ax + by = 0"
],
"answer": 1
},
{
"id": 24,
"question": "Three points are collinear if the area of the triangle formed by them is",
"options": [
"maximum",
"minimum",
"zero",
"non-zero"
],
"answer": 2
},
{
"id": 25,
"question": "The slope of a line perpendicular to a line of slope m is",
"options": [
"m",
"\u2212m",
"1/m",
"\u22121/m"
],
"answer": 3
},
{
"id": 26,
"question": "The value of  $\sin 30^\circ$  is",
"options": [
"0",
"1",
"1/2",
"\u00b3/2"
],
"answer": 2
},
{
"id": 27,

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"question": "If  $\tan \theta = 1$ , then  $\theta$  is",
"options": [
  "30^\circ",
  "45^\circ",
  "60^\circ",
  "90^\circ"
],
"answer": 1
},
{
  "id": 28,
  "question": "The angle of elevation when the height and shadow are equal is",
  "options": [
    "30^\circ",
    "45^\circ",
    "60^\circ",
    "90^\circ"
  ],
  "answer": 1
},
{
  "id": 29,
  "question": "The value of  $\sin 260^\circ + \cos 260^\circ$  is",
  "options": [
    "0",
    "1",
    "2",
    "1/2"
  ],
  "answer": 1
},
{
  "id": 30,
  "question": "If  $\sin \theta = 0$ , then  $\theta$  is",
  "options": [
    "0^\circ",
    "30^\circ",
    "45^\circ",
    "60^\circ"
  ],
  "answer": 0
},
{
  "id": 31,
  "question": "The curved surface area of a cylinder is",
  "options": [
    "2\pi r^2",
    "\pi r^2h",
    "2\pi rh",
    "\pi rh"
  ],
  "answer": 2
},
{
  "id": 32,
  "question": "The volume of a cone is",
  "options": [
    "\pi r^2h",
    "1/3 \pi r^2h",
    "2\pi rh",
    "\pi r^2b^2"
  ],
  "answer": 1
},
{
  "id": 33,
  "question": "The total surface area of a sphere is",
  "options": [
    "2\pi r^2",
    "3\pi r^2",
    "4\pi r^2",
    "6\pi r^2"
  ],
  "answer": 2
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{
  "id": 34,
  "question": "If the radius of a sphere is doubled, its volume becomes",
  "options": [
    "2 times",
    "4 times",
    "6 times",
    "8 times"
  ],
  "answer": 3
},
{
  "id": 35,
  "question": "The shape of a shuttle cock is",
  "options": [
    "Cone and sphere",
    "Cylinder and cone",
    "Hemisphere and cone",
    "Sphere and cylinder"
  ],
  "answer": 2
},
{
  "id": 36,
  "question": "The range of the data 5, 5, 5, 5, 5 is",
  "options": [
    "0",
    "5",
    "1",
    "10"
  ],
  "answer": 0
},
{
  "id": 37,
  "question": "The sum of deviations of observations from their mean is",
  "options": [
    "positive",
    "negative",
    "zero",
    "non-zero"
  ],
  "answer": 2
},
{
  "id": 38,
  "question": "The probability of a sure event is",
  "options": [
    "0",
    "1",
    "1/2",
    "\u22121"
  ],
  "answer": 1
},
{
  "id": 39,
  "question": "The probability of an impossible event is",
  "options": [
    "1",
    "0",
    "\u22121",
    "1/2"
  ],
  "answer": 1
},
{
  "id": 40,
  "question": "If a coin is tossed once, the probability of getting a head is",
  "options": [
    "0",
    "1",
    "1/2",
    "1/4"
  ],

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"answer": 2
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