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MARKING SCHEME (2019-2020)

CLASS-X (Basic)

(MATHS)

SECTION-A

1 - b
2 - c
3 - a
4 - c
5 - b
6 - b
7 - b
8 - a
9 - c
10 - d
11 - b
12 - d
13 - a
14 - d
15 - b
16 - b
17 - a
18 - c
19 - b
20 - c

SECTION-B

21 - Correct Soln $x = 24$ $y = 11$ — (2)

22 - $T_n = 2n - 3$ (1)

$T_5 = 2 \times 5 - 3$

$= 10 - 3$ (1)

$= 7$

23 - Correct construction — (2)

24 - $P(\text{prime}) = \frac{25}{100} = \frac{1}{4}$ — (2)

25 - If the two lines are parallel to each other then $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ — (1)

(2)

$$\frac{6}{3} = \frac{2k}{5} \neq \frac{-10}{8}$$

$$\Rightarrow 2k = \frac{30}{3}$$

$$\Rightarrow k = \frac{30}{2\times 3} = 5$$

} (1)

26 – mid point $= \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$ — (1)

$$= \left(\frac{-2+4}{2}, \frac{6+(-8)}{2}\right)$$

$$= \left(\frac{2}{2}, \frac{-2}{2}\right)$$

$$= (1, -1)$$

} — (1)

SECTION-C

Q.27 Correct solution by substitution method — (3)

Q.28

$$T_n = a + (n-1)d$$

$$T_{11} = a + (11-1)d$$

$$38 = a + 10d$$

} — (1)

$$T_{16} = a + (16-1)d$$

$$73 = a + 15d$$

} — (1)

$$a = -32, \quad d = 7$$

Then $T_{31} = 178$ } — (1)

Q.29 Correct proof ——————— (3)

Q.30 (a) $\dfrac{\cos 45^\circ}{\sec 30^\circ + \operatorname{cosec} 30^\circ} = \dfrac{\frac{1}{\sqrt{2}}}{\frac{2}{\sqrt{3}} + 2}$ — (1)

(3)

$$= \frac{\frac{1}{\sqrt{2}}}{\frac{2}{\sqrt{3}} + \frac{2}{1}} = \frac{\frac{1}{\sqrt{2}}}{\frac{2+2\sqrt{3}}{\sqrt{3}}}$$

$$= \frac{1}{\sqrt{2}} \times \frac{\sqrt{3}}{2+2\sqrt{3}} = \frac{\sqrt{3}}{2\sqrt{2}+2\sqrt{6}}$$

— (1/2) — (1/2)

(b) $$\frac{5\cos^2 60^\circ + 4\sec^2 30^\circ - \tan^2 45^\circ}{\sin^2 30^\circ + \cos^2 30^\circ} = \frac{5\left(\frac{1}{2}\right)^2 + 4\left(\frac{2}{\sqrt{3}}\right)^2 - (1)^2}{1}$$ (1/2)

$$= 5 \times \frac{1}{4} + 4 \times \frac{4}{3} - 1$$

$$= \frac{5}{4} + \frac{16}{3} - 1$$

$$= \frac{79-12}{12} = \frac{67}{12}$$ — (1)

Q.31

Correct formula of mean — (1)

Correct solution — (1)

Correct Answer — (1)

Q.32

(a) $P(W) = \frac{2}{9}$ — (1)

(b) $P(B) = \frac{3}{9} = \frac{1}{3}$ — (1)

(c) $P(R) = \frac{4}{9}$ — (1)

Q.33

Area of shaded region

= Area of Quadrant − Area of Square — (1)

Then correct solution — (2)

Q.34

The point on x-axis be $(x, 0)$

use of distance formula — (1)

(4) Correct Solution — (2)

Or

$\sqrt{(2-10)^2+(-3-y)^2} = 10$ — (1)

Correct solution to find the value of y — (2)

Q.35 Correct statement & Proof — (4)

Or

Correct statement & Proof — (4)

Q.36 Correct construction with the given measurement — (4)

Q.37 Correct proof — (4)

Q.38 $\text{Mode} = l + \left(\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right) \times h$ — (1)

Correct solution — (3)

Q.39 $2\pi r_1 = 18 \Rightarrow r_1 = \frac{18}{2\pi} = \frac{9 \times 7}{2 \times 22} = \frac{63}{22}$

— (1)

$2\pi r_2 = 6 \Rightarrow r_2 = \frac{6}{2\pi} = \frac{3 \times 7}{2 \times 22} = \frac{21}{22}$ — (1)

C.S.A $= \pi l (r_1 + r_2)$ — (1)

Correct soln — (1)

Q.40 Correct diagram — (1)

Correct solution — (1)