# INDIAN SCHOOL MUSCAT
# MIDDLE SECTION
# ANNUAL EXAMINATION 2018-19

**SUBJECT – MATHEMATICS - ANSWER KEY**

**CLASS: VII**

| | | |
|---|---|---|
| | **SECTION A** | |
| **1)** | **The standard form of $\frac{14}{-63}$ is _____**<br>**Ans:** $\frac{-14}{63} = \frac{-2}{9}$ | |
| **2)** | **In a _____ triangle, the two altitudes of the triangle are two of its sides.**<br>**Ans: Right angled triangle** | |
| **3)** | **0.04 = _____% Ans: 4%** | |
| **4)** | **The breadth of a rectangle whose length is 8cm and area is 40cm² is _____**<br>**Ans:** $\frac{40}{8}$ **= 5cm** | |
| **5)** | **The mode of the data 7,12,15,8,12,7,6,12 is _____Ans: 12** | |
| **6)** | $2\frac{3}{5} \times$ **20 = _____ =** $2\frac{3}{5} \times 20 = \frac{13}{5} \times 20 = 52$ | |
| | **SECTION B** | |
| **7)** | **Solve : 3y = 4 ( y – 3 )**<br>Ans: 3x =4x -12<br>3x-4x = -12<br>-x = -12, X = 12 | |
| **8)** | **Can 5cm, 7cm and 13cm be the sides of a triangle? ( show the working )**<br>Ans: (i) 5+ 7 = 12 < 13<br>(ii) 7 + 13 = 20 > 12<br>(iii) 13 +5 = 18 >7<br>Conclusion: Can not be the sides of a triangle | |
| **9)** | **Write all six corresponding parts of Δ ABC ↔ Δ PQ**<br>Ans: AB↔PQ, BC ↔ QR, CA ↔ RP<br>∠A ↔∠P,∠B↔∠Q,∠C↔∠R | |
| **10)** | **Construct Δ BCD in which BC = 4.5cm, CD = 5.6cm and BD = 4cm.**<br>Ans: CD = 5.6 cm , BC= 4.5 cm ( arc) BD = 4 cm ( arc ) Correct figure with label | |

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| **11)** | **Find the area of a triangle whose base is 7.5 cm and height is 6cm.**<br>**Ans:** A = ½ × b × h<br>= ½ × 7.5 × 6<br>= 22.5 cm² | |
| **12)** | **Subtract : $3\frac{5}{6} - 2\frac{1}{2}$**<br>$\frac{23}{6} - \frac{5}{2} = \frac{23-15}{6} = \frac{8}{6} = \frac{4}{3} = 1\frac{1}{3}$ | |
| | **SECTION C** | |
| **13)** | **The perimeter of a rectangle is 30cm. If its length exceeds its breadth by 3cm, find its length and breadth.**<br>**Ans: Let b = x, l = x + 3,**<br>**P = 2 ( l + b ) = 2 ( x + 3 + x)**<br>**30 = 2( 2x + 3)**<br>**30 = 4x + 6**<br>**24 = 4x**<br>**x = 6**<br>**Length = 9cm, breadth = 6cm** | |
| **14)** | **Arrange $\frac{-3}{10}, \frac{4}{-5}, \frac{-11}{20}$ in ascending order.**<br>**Ans:** $\frac{-3}{10}, \frac{-4}{5}, \frac{-11}{20}$<br>$\frac{-6}{20}, \frac{-16}{20}, \frac{-11}{20}$<br>$\frac{-16}{20}, \frac{-11}{20}, \frac{-6}{20}$<br>$\frac{4}{-5} < \frac{-11}{20} < \frac{-3}{10}$ | |
| **15)** | **Find the length of a side AB in the right triangle ABC with sides AC= 13cm, BC = 5cm and ∠B = 90°**<br>**Ans: AB² = 13² - 5²**<br>**AB² = 169 – 25**<br>**AB² = 144**<br>**AB² = 12²**<br>**AB = 12 cm** | |

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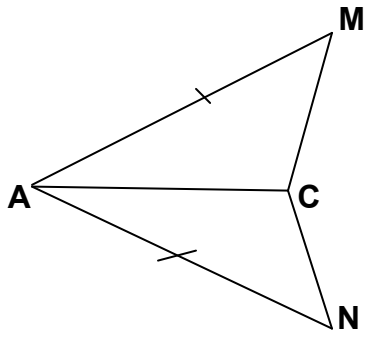
| **16)** | **In the adjoining figure if AMC ↔ ANC,**<br>**(i) AM = _____ ans: AN**<br>**(ii) ∠ MAC =_____ ∠ NAC**<br>**(iii) AC = _____ AC**<br>**(iv) Δ AMC ≅ Δ _____ ANC**<br>  <br> | |
| **17)** | **Construct line CD parallel to line MN at a distance of 5.6 cm.**<br>**Ans: Construction of CD**<br>**Construction of perpendicular**<br>**Distance 5.6 cm on the perpendicular**<br>**Construction of perpendicular**<br>**Construction of MN** | |
| **18)** | **A cycle was bought for RS. 6400 and was sold at a loss of 10%. Find its selling price.**<br>**C.P. Loss S.P.**<br>**100 10 90**<br>**6400 x**<br>$x = \frac{6400 \times 90}{100}$<br>**= Rs.57600** | |
| **19)** | **Following are the scores of 10 students in a second periodic test (out of 20)**<br>**13,17,20,12,8,14,9,18,19,20**<br>**Find its (i) median**<br>**(ii) mean score**<br>**Ans : (i) 8,9,12,13,14,17,18,19,20,20**<br>**= (14 + 17) ÷ 2**<br>**= 31÷ 2**<br>**= 15.5**<br>**(ii) 150÷ 10**<br>**= 15** | |
| **20)** | **Find the area of a circle whose circumference is 220cm.**<br>**Ans:** $220 = 2 \times \frac{22}{7} \times r$<br>$r = \frac{220}{2} \times \frac{7}{22}$<br>**r = 35**<br>$A = \frac{22}{7} \times 35^2$<br>**= 3850 cm²** | |

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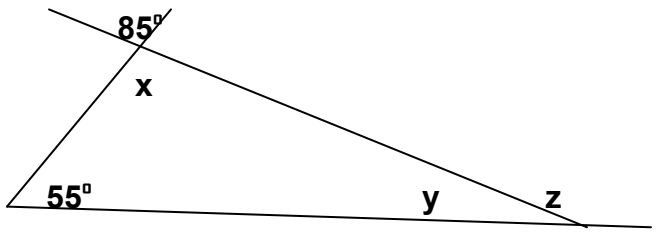
| **21)** | **A rectangular garden 150m long and 90m wide has a uniform path of width 5cm all around it. Find the area of the path.**<br>**Ans: Area of the path = area of outer rectangle - Area of inner rectangle**<br>**= 160 × 100 -150 × 90**<br>**= 16000 – 13500**<br>**= 2500 m²** | |
| **22)** | **(i) Multiply: 4.35 × 3.2**<br>**Ans: 435 × 32**<br>**870**<br>**13050**<br>**13920**<br>**Ans: 13.92**<br>**(ii) Divide:** $5\frac{2}{5} \div \frac{5}{9}$<br>$\frac{27}{5} \times \frac{5}{9} = 3$ | |
| | **SECTION D** | |
| **23)** | **Find four rational numbers in between** $\frac{-4}{9}$ **and** $\frac{-1}{3}$<br>**Ans:** $\frac{-4}{9}$ $\frac{-1}{3}$<br>$\frac{-4}{9}$ $\frac{-3}{9}$<br>$\frac{-40}{90}$ $\frac{-30}{90}$<br>**Ans any 4 numbers in between** | |
| **24)** | **Find the measures of the missing angles in the following figure giving reasons.**<br>  <br><br>**Ans: x = 85° ( vertically opposite angles)**<br>**y = 180 – ( 85 +55 ) (angle sum property)**<br>**= 40°**<br>**z = 180 – 40 ( linear pair) = 140°** | |

**25)** Construct $\Delta$ PQR where PQ = 6cm, $\angle$ P = $90^0$, $\angle$ Q = $60^0$.

**Ans:** Draw PQ = 6cm

Construct $\angle P = 90^0$

Construct $\angle Q = 60^0$

Join Point R

correct triangle PQR and label

**26)** Find the amount on Rs. 25000 for 2 years at 6% p.a. simple interest.

**Ans:** $I = \frac{25000 \times 2 \times 6}{100}$

$= Rs.3000$

$A = 25000 + 3000$

$= Rs.28000$

**27)** Ahmed borrowed Rs. 6000 from his friend and returned Rs. 7500 to him after 2 years. Calculate the rate of interest.

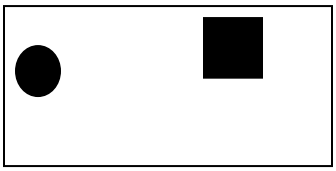
**Ans:** $I = 7500 - 6000$

$= 1500$

$R = \frac{100 \times 1500}{6000 \times 2}$

$= \frac{25}{2} = 12.5\%$

**28)** In a rectangular plot, 100m long and 75m wide, there is a circular well of radius 1.4m and a square shaped water tank of side 8m. Find



(i) the area of the plot

Ans: $100 \times 75 = 7500\ m^2$

(i) the area of the well

Ans: $\frac{22}{7} \times 1.4 \times 1.4 = 6.16m^2$

(iii) the area of the tank

Ans: $8 \times 8 = 64m^2$

(iv) the area of the plot excluding the well and the tank

Ans: $7500 - (6.16 + 64)$

$= 7500 - 70.16$

$= 7429.84m^2$

**29)** The number of children opting Hindi and French in class 9 in a school from 5 different sections are given below. By taking a Scale 1cm = 5 students, represent the data in a double bar graph.

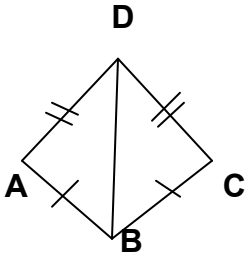
| Section | A | B | C | D | E |
|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Hindi** | **15** | **30** | **25** | **10** | **20** |
| | **French** | **25** | **20** | **15** | **35** | **25** |

**Ans: X axis and Y axis**
**Scale**
**Each double bar**

**30)**

**In the given figure, write**




**(i) matching parts (1½)**

**Ans: AD = CD**

**AB = CB**

**AB = AB**

**(ii) Congruent triangles**

**Δ ABD ≅ ΔCBD**

**(iii) congruence criterion used**

**SSS**

**(iv) Is ∠ A = ∠ C? Give reason. (½+½)**

**Yes, CPCT**