

- (A) $20^\circ, 60^\circ$
 (C) $22^\circ, 56^\circ$

- (B) $28^\circ, 56^\circ$
 (D) $38^\circ, 68^\circ$

6. If $\frac{(a+ib)^2}{a-ib} - \frac{(a-ib)^2}{a+ib} = x+iy$, then the value of x is

(A) 0

(C) $\frac{-2b^3}{(a^2+b^2)^2}$

(B) $\frac{6a^2b}{(a^2+b^2)^2}$

(D) None of these

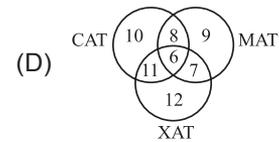
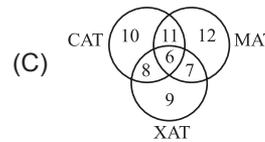
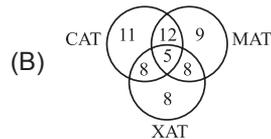
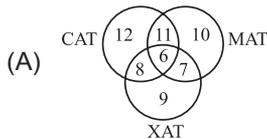
EVERYDAY MATHEMATICS

7. Rajan got married 8 years ago. His present age is $\frac{6}{5}$ times his age at the time of his marriage. Rajan's sister was 10 years younger to him at the time of his marriage. The present age of Rajan's sister is
 (A) 32 years (B) 36 years
 (C) 38 years (D) 40 years

8. A toothed wheel of diameter 50 cm is attached to a smaller wheel of diameter 30 cm. How many revolutions will the smaller wheel make when the larger one makes 15 revolutions?
 (A) 18 (B) 20
 (C) 25 (D) 30

ACHIEVERS SECTION

9. Which of the following Venn diagrams represent the given conditions?
 A survey was conducted at a coaching institute and it was found that there were 34 students who appeared in MAT. There were 37 students who appeared in CAT of which 17 students appeared in MAT. 30 students appeared in XAT of which 13 students appeared in MAT. Of the XAT applicants (i.e., appeared students) 14 appeared in CAT and 6 appeared in all three.



10. Consider the following statements:
Statement-1 : Three non-zero real numbers a, b, c are in G.P., if $b^2 = ac$.
Statement-2 : If the quadratic equation $(a^2 + b^2)x^2 - 2(ab + bc)x + (b^2 + c^2) = 0$ has equal roots, then a, b, c are in G.P., a, b, c being non-zero real numbers.
 Which of the following options is correct?
 (A) Statement-1 is true but Statement-2 is false.
 (B) Statement-1 is false but Statement-2 is true.
 (C) Both Statement-1 and Statement-2 are false.
 (D) Both Statement-1 and Statement-2 are true.

SPACE FOR ROUGH WORK

ANSWERS

1. (C) 2. (C) 3. (C) 4. (C) 5. (C) 6. (A) 7. (C) 8. (C) 9. (A) 10. (D)