

ARITHMETICAL REASONING

Self – Evaluation Test

1. The age of Arvind's father is 4 times of his age. If 5 years ago, father's age was 7 times of the age of his son, what is the age of Arvind's father at present?
(a) 35 years (b) 40 years
(c) 70 years (d) 84 years
(e) None of these

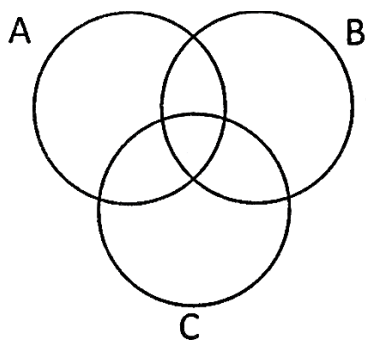
2. After five years, the age of a father will be thrice the age of his son, whereas five years ago, he was seven times old as his son was. What is father's present age?
(a) 35 years (b) 40 years
(c) 45 years (d) 50 years
(e) None of these

3. 15 years ago the difference between the ages of two persons was 10 years. The elder one was twice as old as the younger one. The present age of the elder person is:
(a) 25 years (b) 35 years
(c) 45 years (d) 55 years
(e) None of these

4. The age of a father 10 years ago was thrice the age of his son. Ten years later, the father's age will be twice that of his son. The ratio of their present ages is:
(a) 8 : 5
(b) 7 : 3
(c) 5 : 2
(d) 9 : 5
(e) None of these

5. Mr. Sohanlal is four times as old as his son. Four years later, the sum of their ages will be 43 years. The present age of the son is:
(a) 5 years
(b) 7 years
(c) 8 years
(d) 10 years
(e) None of these

Direction for questions 6 to 10: Circle A represents even numbers from 2 to 50. Circle B represents odd numbers from 2 to 50. Circle C, represents prime numbers from 2 to 50.



6. How many elements are there in set A only?
 (a) 25 (b) 24
 (c) 23 (d) 22
 (e) None of these
7. How many elements are there in set B only?
 (a) 14 (b) 25
 (c) 10 (d) 13
 (e) None of these
8. How many elements are there in $B \cap C$ only?
 (a) 14 (b) 11
 (c) 24 (d) 13
 (e) None of these
9. How many elements are there in $A \cup C$ only?
 (a) 0 (b) 1
 (c) 2 (d) 3
 (e) None of these
10. How many elements are there in C' (complement)?
 (a) 35 (b) 25
 (c) 34 (d) 14
 (e) None of these

Answer – Key

1.	B	2.	B	3.	B	4.	B	5.	B
6.	B	7.	C	8.	A	9.	B	10.	C

Explanation

1. Explanation

Option (B) is correct.

Let the age of Arvind and his father be x and $4x$ years, respectively. Five years ago/the age of Arvind was $(x - 5)$ years and that of his father was $(4x - 5)$ years.

Now, according to the information given in the question,

$$\text{or } (4x - 5) = 7(x - 5)$$

$$\text{or } 4x - 5 = 7x - 35$$

$$3x = 30 \quad \text{or} \quad x = 10 \text{ years}$$

Therefore, the age of Arvind and his father are 10 years and 40 years, respectively,

2. Explanation

Option (B) is correct.

Let the age of son after 5 years be x years.

Then, the age of father after 5 years would be $3x$ years. Five years ago the age of son = $(x - 10)$ years. Five years ago the age of father = $(3x - 10)$ years

According to the given information in the question,

$$(3x - 10) = 7(x - 10)$$

$$\text{or } 3x - 10 = 7x - 70$$

$$\text{or } 4x = 60 \quad \text{or} \quad x = 15 \text{ years}$$

Therefore, present age of father would be $(3x - 5)$ years or $(45 - 5) = 40$ years.

3. Explanation

Option (B) is correct.

Let the present age of the elder person be x years. Then, the present age of the younger person = $(x - 10)$ years.

According to the given information in the question, $(x - 15) = 2(x - 10 - 15)$ or $x = 35$ years

\therefore The present age of the elder person is 35 years.

4. Explanation

Option (B) is correct.

Let the age of the son 10 years ago be x years.

\therefore Father's age 10 years ago would be $3x$ years.

Now as per the information given in question, $3x + 20 = 2(x + 20)$

or $x = 20$

\therefore Ratio of their present ages $= (3x + 10 : x + 10) = 70 : 30 = 7 : 3$

5. Explanation

Option (B) is correct.

Let the present age of the son be x years. Then, the age of Sohanlal would be $4x$ years.

Four years later, their ages would be $(x + 4)$ and $(4x + 4)$ years, respectively.

Now, as per the information given in the question,

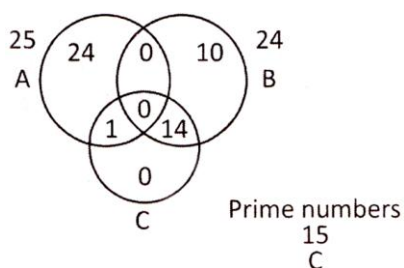
$$(x + 4) + (4x + 4) = 43.$$

or $5x + 8 = 43$

or $5x = 35$ years

or $x = 7$ years

Therefore, the present age of the son is 7 years.



Number of even numbers from 2 to 50 are 25.

Number of odd numbers from 2 to 50 are 24.

Number of prime numbers from 2 to 50 are 15.

6. Explanation

Option (B) is correct.

Number of elements in set A only = 24 i.e, the even numbers which are not primes.

7. Explanation

Option (C) is correct.

There are 10 elements in only set B, i.e, there are 10 odd numbers which are not primes.

8. Explanation

Option (A) is correct.

There are 14 elements in $B \cap C$ i.e, there are 14 odd prime numbers.

9. Explanation

Option (B) is correct.

There is only one element in $A \cup C$ i.e, 2 is the only even prime number.

10. Explanation

Option (C) is correct.

Number of elements in C = the elements which do not belong to the set C . There are $(24 + 10) = 34$ such numbers i.e, numbers are non-primes.