Exercise 7C

(b) 17

Let the two consecutive odd numbers be $(x+1)$ and $(x+3)$.

Then, $(x+1)+(x+3)=36$

$\Rightarrow 2x+4=36$

$\Rightarrow 2x=36-4$

$\Rightarrow x=\frac{\cancel{32}^{16}}{\cancel{2}_{1}}$

$\Rightarrow x=16$

$\therefore$ The smaller number is 17.

Q11

Answer :

(d)11

Let the whole number be x.

Then, $2x+9=31$

$\Rightarrow 2x=31-9$

$\Rightarrow 2x=22$

$\Rightarrow x=\frac{\cancel{22}^{11}}{\cancel{2}_{1}}$

$\Rightarrow x=11$

Q12

Answer :

(a) 6

Let the whole number be x.

Then, $3x+6=24$

$\Rightarrow 3x=24-6$

$\Rightarrow 3x=18$

$\Rightarrow x=\frac{\cancel{18}^{6}}{\cancel{3}_{1}}$

$\Rightarrow x = 6$

Q13

Answer :

(a) 30

Let the original number be x.

Then, $\frac{2}{3}x = x - 10$

$\Rightarrow 2x = 3x - 30$

$\Rightarrow 2x - 3x = -30$

$\Rightarrow \not{-}x = \not{-}30$

$\Rightarrow x = 30$

$\therefore$ The required number is 30.

Q14

Answer :

$(b)\ 50^\circ$

Let the angle be x°.

Then, complementary of $x = 90^\circ - x^\circ$

According to the question, we have :

$x - 90 - x = 10$

$\Rightarrow 2x = 90 + 10$

$\Rightarrow 2x = 100$

$\Rightarrow x = 50$

So, the larger angle is 50°.

Q15

Answer :

$\left(\text{b}\right)\ 80^0$

Let the angle be x°.
Then, complementary angle of $x = 180^\circ - x^\circ$
According to the question, we have :
$x - (180 - x) = 20$
$\Rightarrow x - 180 + x = 20$
$\Rightarrow 2x = 10 + 180$
$\Rightarrow 2x = 200$
$\Rightarrow x = 100$
Hence, the smaller angle is 80°.

Q16

Answer :

(c)15 years
Let the present ages of A and B be $5x$ and $3x$, respectively.
According to the question, we have :
$\frac{5x+6}{3x+6} = \frac{7}{5}$
$\Rightarrow 25x + 30 = 21x + 42$
$\Rightarrow 25x - 21x = 42 - 30$
$\Rightarrow 4x = 12$
$\Rightarrow x = \frac{\cancel{12}^{3}}{\cancel{4}}$
$\Rightarrow x = 3$
$\therefore$ A's present age$=5 \times 3$ years$=15$ years

Q17

Answer :

(b) 20
Let the number be x.

Then, $5x = x + 80$
$\Rightarrow 5x - x = 80$
$\Rightarrow 4x = 80$
$\Rightarrow x = \frac{\cancel{80}^{20}}{\cancel{4}_{1}}$
$\Rightarrow x = 20$
$\therefore$ The required number is 20.

Q18

Answer :

(c) 32 m
Let the width of the rectangle be x. Then, its length will be $3x$.

Perimeter of the rectangle $= 96$ m
Now, $2(l + b) = 96$
$\Rightarrow 2(3x + x) = 96$
$\Rightarrow 2 \times 4x = 96$
$\Rightarrow 8x = 96$
$\Rightarrow x = \frac{\cancel{96}^{12}}{\cancel{8}_{1}}$
$\Rightarrow x = 12$
$\therefore$ Length of the rectangle $= 3 \times 12$ m $= 36$ m

********** END **********