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Q1 None of the above

Q2 10^{100}

Q3 c) identity for addition

Q4 c) identity for multiplication

Q5
3 | 1323
3 | 441
3 | 147
7 | 49
7 | 7
1

$1323 = \overline{3\times3\times3} \times \overline{7\times7}$

So, required no. to be multiplied to make 1323 a perfect ~~square~~ cube is 7.

Q6 $\frac{2.7}{18} \times 100 = \frac{\cancel{270}^{3}}{\cancel{180}_{18\,2}} \times \cancel{100}^{10\,5} = 15\%$.

So, 2.7 is 15% of 18

Q7 So, we know $= n(A \cap B) = n(A) + n(B) - n(A \cup B)$
$= 17 + 23 - 38$
$= 40 - 38 = 2$

$\therefore n(A \cap B) = 2$

Q8
$\begin{array}{r} 5A \\ \times\ A \\ \hline 399 \end{array}$

As we know $A \times A = 9$
$\therefore$ Possible values are 3 and 7

So, taking 7 into consideration we get $= 57 \times 7 = 399$
$\therefore A = 7$

Q9

No of men	30	x
No of days	21	12

As they vary inversely $\Rightarrow 30 \times 21 = x \times 12$

$$x = \frac{30 \times 21}{12}$$

$$x = 60$$

So, 60 men will complete the work in 12 days

Q10 a) commutative law of addition

Q11 $\frac{2}{3}$ and $\frac{3}{4}$

Converting to like fraction we get

$\frac{2}{3} \times \frac{100}{100} = \frac{200}{300}$ So, required no.'s are

$\frac{3}{4} \times \frac{75}{75} = \frac{225}{300}$ $\frac{201}{300}, \frac{202}{300}, \frac{203}{300}$.

Q12 $(12)^{-2} \times 4^3$

$= \frac{1}{12^2} \times 64$

$= \frac{64}{144} = \frac{4}{9}$

Q13 Length of rope be x No. of pieces = 12
Length of each piece = $\frac{x}{12}$

Q14 $\frac{8}{7}, \frac{-9}{8}, \frac{-3}{2}, 0, \frac{2}{5}$

Converting into like fractions we get

$\frac{8}{7} \times \frac{40}{40} = \frac{320}{280}$

$\frac{-9}{8} \times \frac{35}{35} = \frac{-315}{280}$

$\frac{-3}{2} \times \frac{140}{140} = \frac{-420}{280}$

$\frac{2}{5} \times \frac{56}{56} = \frac{112}{280}$

So, in descending order we get

$\frac{320}{280} > \frac{112}{280} > 0 > \frac{-315}{280} > \frac{-420}{280}$

$\therefore \frac{8}{7} > \frac{2}{5} > 0 > \frac{-9}{8} > \frac{-3}{2}$

Q15 Additive inverse of 7 = -7
Multiplicative inverse of 7 = $\frac{1}{7}$

Sum = $-7 + \frac{1}{7} = \frac{-49+1}{7} = \frac{-48}{7}$

Q16 Perimeter = $8y^2 - 9y + 4$ (Sum of 3 sides)
Two sides = $3y^2 - 5y$ and $4y^2 + 12$
Third side = $8y^2 - 9y + 4 - (3y^2 - 5y + 4y^2 + 12)$
$= 8y^2 - 9y + 4 - 3y^2 + 5y - 4y^2 - 12$
$= 8y^2 - 3y^2 - 4y^2 - 9y + 5y - 12 + 4$
$= y^2 - 4y - 8$

So, third side is $y^2 - 4y - 8$

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Q[97] A can do a piece of work in 20 days
B can do a piece of work in 15 days

A does in 1 day $= \frac{1}{20}$ Total, $= \frac{7}{60}$

B does in 1 day $= \frac{1}{15}$

Together in 6 days $= \frac{7}{60} \times 6 = \frac{42}{60}$

Work left $= 1 - \frac{42}{60} = \frac{60-42}{60} = \frac{18}{60}$

The B can do it in $= \frac{3}{10} \div \frac{1}{15}$

$= \frac{3}{10_2} \times \frac{15^3}{1} = \frac{9}{2} = 4.5$

So, he can do in 4.5 days