# Bank Foundation Quantitative Aptitude PDF 3

**Q1.** If the area of square is 361 $cm^2$ and the side of square is equal to the base of the triangle which area is 142.5 $cm^2$, then find the height of the triangle?
(a) 12 cm
(b) 16 cm
(c) 18 cm
(d) 15 cm
(e) 10 cm

**Q2.** Aman spends 20% of his income to rent and 35% of the income on education. If the remaining he saved and the difference between total expenditure and saving of Aman is Rs. 5000, then find the total income of Aman?
(a) Rs.50000
(b) Rs.55000
(c) Rs.45000
(d) Rs.54000
(e) Rs.60000

**Q3.** Pipe A alone can fill a tank in 25 hours and pipe B & pipe C together fill the same tank in 10 hours. If pipe A open for 5 hours and the remaining tank fill by pipe C in 10 hours, then find in how much time pipe B alone can fill the tank?
(a) 36 hours
(b) 45 hours
(c) 48 hours
(d) 60 hours
(e) 50 hours

**Q4.** If a book is marked 100% above the cost price and it sold after a discount of Rs.500, then the profit was 75%. Find the cost price of the book?
(a) Rs.1500
(b) Rs.1400
(c) Rs.1000
(d) Rs.2000
(e) Rs.1800

**Q5.** A can cover 60 meters in 10 seconds and D can cover 60 meters in 15 second. If they both participated in a race and A defeated D by 200 meters, then find the length of race?
(a) 500 m
(b) 600 m
(c) 800 m
(d) 400 m
(e) 300 m

**Directions (6-10): Solve the given quadratic equations and mark the correct option based on your answer.**

**Q6.**

I. $x^2 - 14x + 24 = 0$

II. $y^2 + 8y + 15 = 0$

(a) if $x > y$

(b) if $x \geq y$

(c) if $x < y$

(d) if $x \leq y$

(e) if $x = y$ or no relation can be established between x and y.

**Q7.**

I. $x^2 + 25x + 84 = 0$

II. $y^2 + 18y + 45 = 0$

(a) if $x > y$

(b) if $x \geq y$

(c) if $x < y$

(d) if $x \leq y$

(e) if $x = y$ or no relation can be established between x and y.

**Q8.**

I. $x^2 + 16x + 60 = 0$

II. $y^2 - 29y + 54 = 0$

(a) if $x > y$

(b) if $x \geq y$

(c) if $x < y$

(d) if $x \leq y$

(e) if $x = y$ or no relation can be established between x and y.

**Q9.**

I. $x^2 + 22x + 96 = 0$

II. $y^2 + 7y - 78 = 0$

(a) if $x > y$

(b) if $x \geq y$

(c) if $x < y$

(d) if $x \leq y$

(e) if $x = y$ or no relation can be established between x and y.

**Q10.**

I. $x^2 + 7x + 12 = 0$

II. $y^2 + 21y + 68 = 0$

(a) if $x > y$

(b) if $x \geq y$

(c) if $x < y$

(d) if $x \leq y$

(e) if x = y or no relation can be established between x and y.

**Q11.** There are six numbers. The sum of first five number is 10 times the sixth number. If the average of all six numbers is 22, then find the sixth number?

(a) 12

(b) 14

(c) 16

(d) 18

(e) 20

**Q12.** A is three years older than B and age of B is three times of C. If the sum of age of A, B and C is 80 years, then find the age of A?

(a) 22 years

(b) 33 years

(c) 11 years

(d) 48 years

(e) 36 years

**Q13.** Two trains A and B running in opposite direction and crosses a man in 19 sec & 7 sec respectively. If both trains cross each other in 14 sec, then find the respective ratio of speed of train A to train B?

(a) 1:1

(b) 4:5

(c) 5:4

(d) 7:5

(e) 5:7

**Q14.** A and B invested in a business in the ratio of 2:3 respectively. If after one year 10% of profit given to the charity and the profit share of A is Rs.4500, then find the total profit?

(a) Rs.12000

(b) Rs.13500

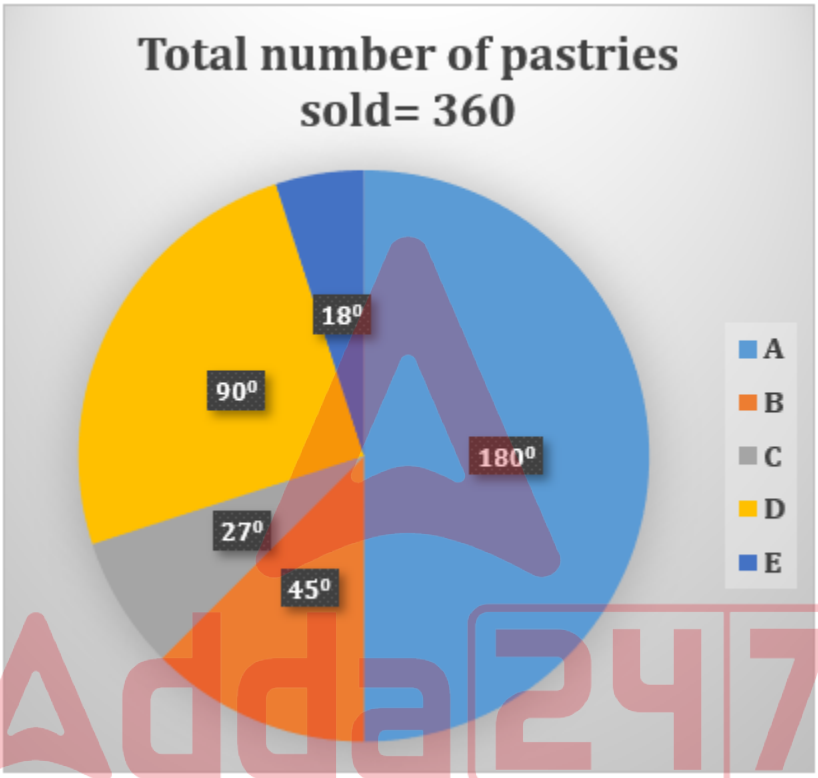
(c) Rs.15500

(d) Rs.12500

(e) Rs.15000

**Q15.** In how many years sum of Rs.4500 gives an interest of 810 at 9% p.a. on simple interest (in year)?
(a) 2
(b) 3
(c) 4
(d) 5
(e) 6

**Directions (16-20): Pie chart given below shows the degree distribution of total number of pastries sold by five different shops (A, B, C, D and E). Read the pie chart carefully and answer the following question.**




**Q16.** Find the difference between number of pastries sold by shop A and that by shops C & D together?
(a) 63
(b) 45
(c) 72
(d) 21
(e) 27

**Q17.** Find number of pastries sold by D is what percent more than that by B.
(a) 180%
(b) 150%
(c) 100%
(d) 200%
(e) 300%

**Q18.** Find the average number of pastries sold by B, C and D.
(a) 54
(b) 45
(c) 56
(d) 65
(e) 76

**Q19.** If pastries sold by shop F is 20% more than pastries sold by A and B together, then find the total pastries sold by shop F.
(a) 270
(b) 300
(c) 225
(d) 224
(e) 230

**Q20.** Find the respective ratio of pastries sold by A & D together to B & C together.
(a) 15:4
(b) 4:15
(c) 5:4
(d) 4:19
(e) 1:1

**Directions (21-25): What will come in the place of question (?) mark in following number series:**

**Q21.** 10, 11, 20, 45, ?, 175
(a) 93
(b) 92
(c) 94
(d) 91
(e) 95

**Q22.** 110, 132, 156, 182, 210, ?
(a) 190
(b) 280
(c) 255
(d) 240
(e) 200

**Q23.** 1, 3, 9, ?, 129, 651
(a) 40
(b) 33
(c) 30
(d) 35
(e) 31

**Q24.** 1, 3, 9, 27, ?, 243
(a) 49
(b) 51
(c) 41
(d) 80
(e) 81

**Q25.** 4, 2, 1, $\frac{1}{2}$, $\frac{1}{4}$, ?
(a) 1/8
(b) 1/16
(c) 1/12
(d) 1/6
(e) 8

**Directions (26-35): What will come in the place of question (?) mark in following questions?**

**Q26.** $13^2 \times 210 \times \frac{1}{273} = ?^3 + 5$
(a) 2
(b) 4
(c) 5
(d) 6
(e) 1

**Q27.** 25% of 24% of 900 + 6 × 75 = ?
(a) 504
(b) 505
(c) 503
(d) 502
(e) 501



**Q28.** $\frac{170}{34} \times \frac{75}{25} + \frac{742}{14} - 4 = ?^3$
(a) 4
(b) 5
(c) 6
(d) 7
(e) 8

**Q29.** 23 × 17 + 427 − 15% of 1500 = ?
(a) 590
(b) 591
(c) 592
(d) 599
(e) 593

**Q30.** (3/9) of 189 + 70% of 60 = $(?)^2 + \sqrt{25}$
(a) 8
(b) 6
(c) 3
(d) 5
(e) 10

**Q31.** $(0.9)^2 \times 10 + 2.9 = ? + 132 \div 12$
(a) 4
(b) 3
(c) 2
(d) 1
(e) 0

**Q32.** $4\frac{5}{7} \times 4\frac{2}{3} + ? = 35\%\ of\ 200$
(a) 40
(b) 42
(c) 46
(d) 48
(e) 50

**Q33.** $(0.5)^3 \times 500 \div 5000 = ?$
(a) 1/180
(b) 1/810
(c) 1/40
(d) 1/20
(e) 1/80

**Q34.** $13 \times ? \times 6 = 47^2 - \sqrt{625}$
(a) 20
(b) 28
(c) 38
(d) 19
(e) 18

**Q35.** $25^{6.5} \times 5^{12} = 5^{28-?}$
(a) 4
(b) 3
(c) 6
(d) 7
(e) 8

## Solutions

**S1. Ans.(d)**

**Sol.**

Let the side of the square and base of triangle be 'a' cm

And height of triangle is h cm.

$a^2 = 361$

$a = 19$

Area of triangle = 142.5 = $\frac{1}{2} \times a \times h$

$h = 15\ cm$

**S2. Ans.(a)**

**Sol.**

Let the total income of Aman is 100x Rs.

Total expenditure = $100x \times \left(\frac{20+35}{100}\right) = 55x$ Rs.

Total saving = 100x – 55x = 45x Rs.

ATQ, 55x – 45x = 5000

$x = 500$ Rs.

Total income of Aman = Rs.50000

**S3. Ans.(e)**

**Sol.**

Total capacity of tank = 50 unit (LCM of 25 and 10)

Efficiency of pipe A = $\frac{50}{25} = 2\ unit/hour$

Efficiency of pipe C = $\frac{(50-2\times5)}{10} = 4\ unit/hour$

Efficiency of pipe B = $\frac{50}{10} - 4 = 1\ unit/hour$

Required time = $\frac{50}{1} = 50$ hours

**S4. Ans.(d)**

**Sol.**

Let the cost price of book = 100x Rs.

Marked price of book = 200x Rs.

ATQ,

$200x - 500 = 100x \times \frac{175}{100}$

$200x - 175x = 500$

$25x = 500$

$x = 20$ Rs.

Cost price of book = Rs.2000

**S5. Ans.(b)**
**Sol.**
A's speed $= \frac{60}{10} = 6$ m/sec
D's speed $= \frac{60}{15} = 4$ m/sec
ATQ,
Let length of race be 'D' meters.
So,
$\frac{D}{D-200} = \frac{6}{4}$
$\Rightarrow 2D = 1200$
D = 600 m

**S6. Ans.(a)**
**Sol.**
I. $x^2 - 14x + 24 = 0$
$x^2 - 12x - 2x + 24 = 0$
$x(x-12) - 2(x-12) = 0$
$x = 2, 12$
II. $y^2 + 8y + 15 = 0$
$y^2 + 5y + 3y + 15 = 0$
$y(y+5) + 3(y+5) = 0$
$y = -5, -3$
So, x>y

**S7. Ans.(e)**
**Sol.**
I. $x^2 + 25x + 84 = 0$
$x^2 + 21x + 4x + 84 = 0$
$x(x+21) + 4(x+21) = 0$
$x = -4, -21$
II. $y^2 + 18y + 45 = 0$
$y^2 + 15y + 3y + 45 = 0$
$y(y+15) + 3(y+15) = 0$
$y = -3, -15$
So, No relation

**S8. Ans.(c)**
**Sol.**
I. $x^2 + 16x + 60 = 0$
$x^2 + 10x + 6x + 60 = 0$
$x(x+10) + 6(x+10) = 0$
$x = -6, -10$
II. $y^2 - 29y + 54 = 0$
$y^2 - 27y - 2y + 54 = 0$
$y(y-27) - 2(y-27) = 0$
$y = 2, 27$
So, y>x

**S9. Ans.(e)**

**Sol.**

I. $x^2 + 22x + 96 = 0$

$x^2 + 16x + 6x + 96 = 0$

$x(x+16) + 6(x+16) = 0$

$x = -16, -6$

II. $y^2 + 7y - 78 = 0$

$y^2 + 13y - 6y - 78 = 0$

$y(y+13) - 6(y+13) = 0$

$y = 6, -13$

So, No Relation

**S10. Ans.(b)**

**Sol.**

I. $x^2 + 7x + 12 = 0$

$x^2 + 4x + 3x + 12 = 0$

$x(x+4) + 3(x+4) = 0$

$x = -3, -4$

II. $y^2 + 21y + 68 = 0$

$y^2 + 17y + 4y + 68 = 0$

$y(y+17) + 4(y+17) = 0$

$y = -4, -17$

So, $x \geq y$

**S11. Ans.(a)**

**Sol.**

Let the six numbers be a, b, c, d. e and f.

Let f be the sixth number

ATQ,

$a + b + c + d + e = 10 \times f$

$\frac{10f+f}{6} = 22$

$f = 12$

**S12. Ans.(e)**

**Sol.**

Let the age of A, B and C be a years, b years and c years respectively.

$a = 3 + b, b = 3c$

$a + b + c = 80$

$3 + 3c + 3c + c = 80$

$7c + 3 = 80$

$7c = 77$

$c = 11$

Age of A = 3+3c=36 years

**S13. Ans.(d)**

**Sol.**

Let the speed of train A and B be a m/s and b m/s respectively.
Length of train A be X m and length of train B be Y m
ATQ,

$a = \frac{X}{19}$ $b = \frac{Y}{7}$

$a + b = \frac{X+Y}{14}$

$14 \times (a + b) = 19a + 7b$

$7b = 5a$

$\frac{a}{b} = \frac{7}{5}$

**S14. Ans.(d)**

**Sol.**

Profit sharing ratio A to B $= 2x \times 12 : 3x \times 12 = 2 : 3$
Let total profit = Rs.100x
ATQ,

$100x \times \frac{(100-10)}{100} \times \frac{2}{5} = 4500$

$x = 125$ Rs.

Total profit = $100 \times 125 = Rs.12500$

**S15. Ans.(a)**

**Sol.**

Sum = 4500, R=9% SI= 810, time = t

$810 = \frac{4500 \times 9 \times t}{100}$

$t = 2\ years$

**S16. Ans.(a)**

**Sol.**

| Shops | Total pastries sold |
|---|---|
| A | $360 \times \frac{180}{360} = 180$ |
| B | $360 \times \frac{45}{360} = 45$ |
| C | $360 \times \frac{27}{360} = 27$ |
| D | $360 \times \frac{90}{360} = 90$ |
| E | $360 \times \frac{18}{360} = 18$ |

Required difference = 180 – (27+90) = 63

**S17. Ans.(c)**

**Sol.**

| Shops | Total pastries sold |
|---|---|
| A | $360 \times \frac{180}{360} = 180$ |
| B | $360 \times \frac{45}{360} = 45$ |
| C | $360 \times \frac{27}{360} = 27$ |
| D | $360 \times \frac{90}{360} = 90$ |
| E | $360 \times \frac{18}{360} = 18$ |

Required percentage $= \frac{90-45}{45} \times 100 = 100\%$

**S18. Ans.(a)**

**Sol.**

| Shops | Total pastries sold |
|---|---|
| A | $360 \times \frac{180}{360} = 180$ |
| B | $360 \times \frac{45}{360} = 45$ |
| C | $360 \times \frac{27}{360} = 27$ |
| D | $360 \times \frac{90}{360} = 90$ |
| E | $360 \times \frac{18}{360} = 18$ |

Required average $= \frac{45+27+90}{3} = 54$

**S19. Ans.(a)**

**Sol.**

| Shops | Total pastries sold |
|---|---|
| A | $360 \times \frac{180}{360} = 180$ |
| B | $360 \times \frac{45}{360} = 45$ |
| C | $360 \times \frac{27}{360} = 27$ |
| D | $360 \times \frac{90}{360} = 90$ |
| E | $360 \times \frac{18}{360} = 18$ |

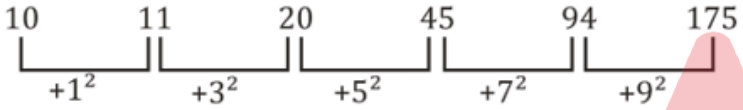
Total pastries sold by shop F $= \frac{120}{100} \times (45 + 180) = 270$

**S20. Ans.(a)**
**Sol.**

| Shops | Total pastries sold |
|---|---|
| A | $360 \times \frac{180}{360} = 180$ |
| B | $360 \times \frac{45}{360} = 45$ |
| C | $360 \times \frac{27}{360} = 27$ |
| D | $360 \times \frac{90}{360} = 90$ |
| E | $360 \times \frac{18}{360} = 18$ |

Required ratio = $(180 + 90) : (45 + 27) = 270 : 72 = 15 : 4$

**S21. Ans.(c)**
**Sol.**
Pattern of series –




**S22. Ans.(d)**
**Sol.**
Here the pattern is:
10×11 = 110
11×12 = 132
12×13 = 156
13×14 = 182
14×15 = 210
? = 15×16 = **240**

**S23. Ans.(e)**
**Sol.**
Pattern of series –
$1 \times 1 + 2 = 3$
$3 \times 2 + 3 = 9$
$? = 9 \times 3 + 4 =$ **31**
$31 \times 4 + 5 = 129$
$129 \times 5 + 6 = 651$

**S24. Ans.(e)**
**Sol.**
Pattern of series –
1× 3 = 3
3× 3 = 9
9× 3=27
27× 3=81
81× 3=243

**S25. Ans.(a)**

**Sol.**

Pattern of series –

$4 \div 2 = 2$

$2 \div 2 = 1$

$1 \div 2 = \frac{1}{2}$

$\frac{1}{2} \div 2 = \frac{1}{4}$

$? = \frac{1}{4} \div 2 = \frac{1}{8}$

**S26. Ans.(c)**

**Sol.**

$169 \times 210 \times \frac{1}{273} = ?^3 + 5$

$130 = ?^3 + 5$

$125 = ?^3$

$5 = ?$

**S27. Ans.(a)**

**Sol.**

$\frac{25}{100} \times \frac{24}{100} \times 900 + 450 = ?$

$54 + 450 = ?$

$504 = ?$

**S28. Ans.(a)**

**Sol.**

$15 + 53 - 4 = ?^3$

$64 = ?^3$

$4 = ?$

**S29. Ans.(e)**

**Sol.**

$391 + 427 - 225 = ?$

$593 = ?$

**S30. Ans.(e)**

**Sol.**

$63 + 42 = (?)^2 + 5$

$10 = ?$

**S31. Ans.(e)**

**Sol.**

$8.1 + 2.9 = ? + 11$

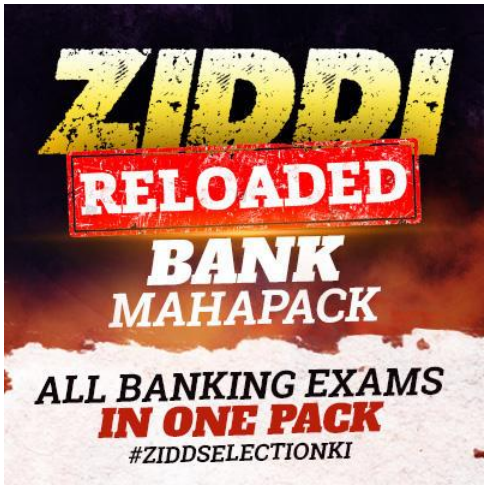
$? = 0$

**S32. Ans.(d)**

**Sol.**

$\frac{33}{7} \times \frac{14}{3} + ? = 70$

$? = 48$




**S33. Ans.(e)**

**Sol.**

$\frac{5\times5\times5}{1000} \times 500 \times \frac{1}{5000} = ?$

$\frac{1}{80} = ?$

**S34. Ans.(b)**

**Sol.**

$?=\frac{2209-25}{13\times6}$

$? = 28$

**S35. Ans.(b)**

**Sol.**

$5^{13+12} = 5^{28-?}$

$25 = 28-?$

$3 = ?$