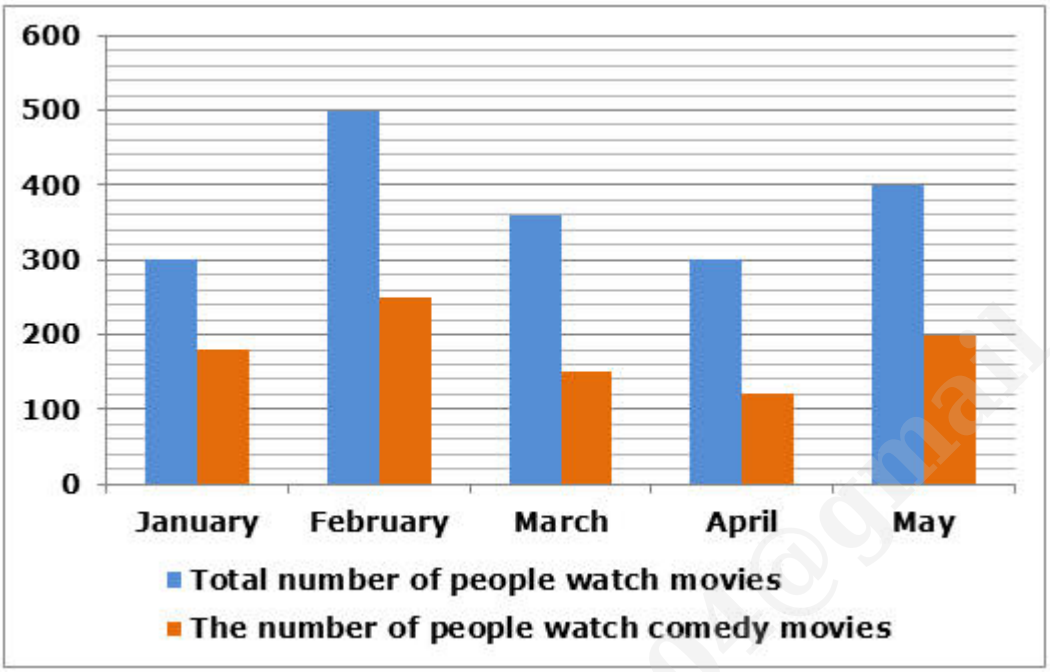
1. Questions

Study the following information carefully and answer the questions.

The given bar graph shows the total number of people who watched movies (comedy + thriller) and the number of people who watched comedy movies in five different months namely January, February, March, April and May respectively.



In February, out of the total number of people who watched comedy movies, 22% are watching with their partners, 30% are watching with their friends, and the rest are watching with their families. Find the average number of people who are watching comedy movies with both friends and family together.

a. 98

b. 97.5

c. 96.5

d. 94.5

e. 92.75

2. Questions

The ratio of the total number of people who watched movies in June to March is 4:3. The ratio of the total number of people who watched comedy movies in June to January is 3:2. Find the number of people who watched thriller movies in June.

a. 200

b. 210

c. 340

d. 280

e. 270

3. Questions

In April, there are two thriller movies, Ring and Sweet. The ratio of the number of people who watched Ring to Sweet is 5:4. Find the total number of people who watched Ring movies.

a. 120

b. 100

c. 80

d. 125

e. 150

4. Questions

Find the total number of people who watched thriller movies in all the months together.

a. 1080

b. 870

c. 960

d. 1200

e. 780

5. Questions

Find the ratio between the number of people who watched comedy movies in March to the number of people who watched thriller movies in May.

a. 4:3

b. 3:4

c. 5:6

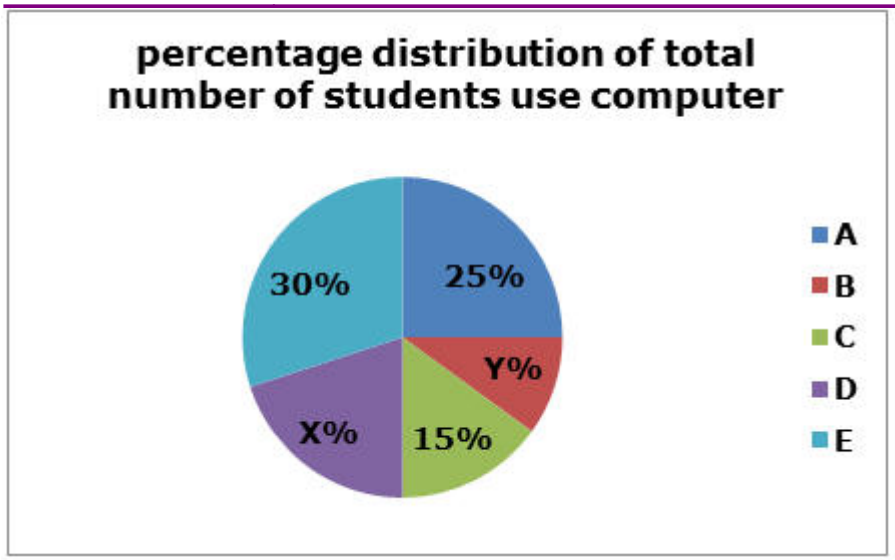
d. 7:4

e. 2:9

6. Questions

Study the following information carefully and answer the questions.

The given pie chart shows the percentage distribution of the total number of students who used computers in five different colleges and the total number of students who used computers in college D was 300.



Note: **i)** z^2-8z-240=0, x=z/2

The number of students using computers in colleges F and G is 75% of the number of students using computers in college D. The ratio of the number of students using computers in college F to A is 1:5. Find the number of students who use computers in college G.

a. 80

b. 75

c. 55

d. 90

e. 120

7. Questions

In college D, the ratio of girls to boys who used computers is 3:2, and the number of boys who used computers in college C is equal to the number of girls who used computers in college D. Find the number of girls who use computers in college C.

a. 260

b. 220

c. 270

d. 150

e. 180

8. Questions

In college B, 20% of the students use HP computers, 15% of the students use Dell computers and the remaining students use Acer computers. The ratio of boys to girls who used Acer computers is 5:8. Find the sum of the number of girls who use Acer computers and the number of people who use Dell computers.

a. 350

b. 420

c. 330

d. 400

e. 280

9. Questions

Find the difference between the number of students who used computers in colleges E and C.

a. 600

b. 450

c. 650

d. 500

e. 540

10. Questions

The ratio of the number of girls to boys who used computers in college A is 7:8. Find the number of girls who used computers in college A.

a. 420

b. 350

c. 400

d. 300

e. 250

11. Questions

The average present age of A and B is 45 years. A is 10 years older than B, and the age of C after 10 years is equal to the present age of B. The ratio of the present age of C to D is 3:4. Find the present age of D.

a. 35 years

b. 30 years

c. 50 years

d. 40 years

e. 42 years

12. Questions

A train, with a length of 480 m, takes 32 seconds to cross a car moving in the same direction. The speed of train is 72 kmph. A bike is 20% slower than a car and takes 45 seconds to cross a bridge. Find the length of the bridge.

a. 180 metre
b. 190 metre
c. 210 metre
d. 189 metre
e. 231 metre

13. Questions

A solution is made of a mixture of milk and water which has 20% milk in it. Initially, 10% of this mixture is replaced with the same quantity of pure milk. After that, 25% of this new mixture is replaced with the same quantity of pure milk. Find the percentage of milk present in the final mixture.

a. 54%
b. 46%
c. 52%
d. 38%
e. 25%

14. Questions

The difference between compound interest and simple interest calculated on a certain sum at a rate of 20% per annum for 2 years is Rs. 80. If the sum is invested in CI at a rate of 10% per annum for 3 years, then find the interest.

a. Rs. 650
b. Rs. 662
c. Rs. 340
d. Rs. 580
e. Rs. 670

15. Questions

An article that costs Rs. 250 is marked up by 32% and then sold at a discount of Rs. 'y',ultimately being sold for Rs. 270. If another article that costs Rs. 400 is marked up by 'y%' and then sold at a discount of Rs. 120. What will be its selling price?

a. Rs. 500
b. Rs. 520

c. Rs. 680

d. Rs. 450

e. Rs. 640

16. Questions

'A' and 'B' started a business with investments of Rs. 5,600 and Rs. 7,700, respectively, and 'B' invested for 4 months more than 'A'. If the total profit share received by 'B' was 65% more than that of 'A', then find the number of months for which 'A' invested.

a. 22

b. 20

c. 18

d. 15

e. 23

17. Questions

Pipe A alone can fill a tank 'X' in 70 minutes. When Pipes A and B are together, they can fill a tank 'X' in 21 minutes. If pipe 'B' alone to fill tank 'X' for 40 minutes, then how many litres of water will be wasted. Given that the capacity of tank 'X' is 150 litres?

a. 45 litres

b. 50 litres

c. 80 litres

d. 35 litres

e. 26 litres

18. Questions

The rectangle has a length to breadth ratio of 5:6, and its perimeter is 88 cm. If the length and breadth are increased by 10% and 25%, respectively, then find the area of the rectangle.

a. 550 cm^2

b. 560 cm^2

c. 660 cm^2

d. 720 cm^2

e. 480 cm^2

19. Questions

The product is obtained when a number is multiplied by 125% of itself is 6480. If 75% of the number is added to the square of 4 and y, then the number becomes 100. Find the value of y.

a. 40

b. 30

c. 25

d. 45

e. 16

20. Questions

The speed of the boat is 24 km/hr, and the speed of the stream is 25% less than that of the boat. It takes 64 hours to cover a distance of D km upstream and downstream. Find the time taken to cover a distance of 2D km downstream.

a. 18 hours

b. 16 hours

c. 20 hours

d. 14 hours

e. 11 hours

21. Questions

What value should come in the place of (?) in the following questions.

$16 * 35 + 4.5 * 72 - 817 \div 19 = ?^2$

a. 24

b. 22

c. 26

d. 29

e. 20

22. Questions

$31 * 19 + 23 * 15 - 46 * 18 = ?$

a. 102

b. 106

c. 114

d. 118

e. 120

23. Questions

35% of 80 + 125% of 48 – 55% of 40 = ?

a. 62

b. 64

c. 66

d. 69

e. 71

24. Questions

$((256)^3 \div (32768)) \div \sqrt{64} = 4^?$

a. 2

b. 4

c. 1

d. 5

e. 3

25. Questions

75% of 500 + 45% of 200 = ? * 31

a. 12

b. 9

c. 18

d. 15

e. 20

26. Questions

What approximate value should come in the place of (?) in the following questions?

$?^2 + (1870.11 \div \sqrt{7920}) = 14.981 * \sqrt{530}$

a. 11

b. 18

c. 20

d. 27

e. 25

27. Questions

$(27.27)^2$ - √6240 = $?^2$ + √5475

a. 28

b. 20

c. 24

d. 21

e. 26

28. Questions

55.09% of 119.89 = 44.18% of ? - √5930

a. 285

b. 295

c. 320

d. 325

e. 330

29. Questions

24.31 – 12.15 ÷ 3.42 = 12.72 * ?

a. 2

b. 8

c. 12

d. 10

e. 17

30. Questions

12.12 * 10.91 * 8.78 ÷ ? = 14.68

a. 42

b. 58

c. 79

d. 89

e. 95

31. Questions

Find out the missing number in the following number series.

38, 59, 24, 73, ?, 87

a. 10

b. 12

c. 18

d. 15

e. 20

32. Questions

5, 7, 17, 55, ?, 1131

a. 110

b. 175

c. 185

d. 204

e. 225

33. Questions

1, 3, 20, 40, ?, 57

a. 80

b. 120

c. 20

d. 57

e. 90

34. Questions

9, 90, 154, 203, 239, ?

a. 258

b. 264

c. 268

d. 273

e. 278

35. Questions

11, 19, ?, 47, 67, 91

a. 25

b. 28

c. 31

d. 34

e. 37

36. Questions

Find out the wrong number in the following number series.

3, 6, 24, 148, 1152, 11520

a. 1152

b. 148

c. 11520

d. 24

e. 6

37. Questions

2, 3, 8, 27, 118, 565

a. 118

b. 3

c. 565

d. 27

e. 8

38. Questions

36, 37, 33, 40, 20, 25

a. 25

b. 33

c. 20

d. 37

e. 40

39. Questions

63, 47, 33, 21, 11, 5

a. 47

b. 21

c. 5

d. 33

e. 11

40. Questions

375, 75, 300, 100, 200, 50

a. 75

b. 100

c. 300

d. 50

e. 200

41. Questions

In each of the following questions, two equations (I) and (II) are given. You have to solve both the equations to find the relation between x and y.

I). $x^2 + x - 342 = 0$

II). $y^2 + 13y - 338 = 0$

a. $x > y$

b. $x \geq y$

c. If $x = y$ or no relation can be established between x and y.

d. $x < y$

e. $x \leq y$

42. Questions

I). $x + 6y = 111$

II). $3x + 4y - 109 = 0$

a. $x > y$

b. $x \geq y$

c. If $x = y$ or no relation can be established between x and y.

d. $x < y$

e. $x \leq y$

43. Questions

I). $x^2 - 38x + 361 = 0$

II). $y^2 - 13y - 90 = 0$

a. $x > y$

b. $x \geq y$

c. If $x = y$ or no relation can be established between x and y.

d. $x < y$

e. $x \leq y$

44. Questions

I). $x^2 - 22x + 117 = 0$

II). $y^2 - 10y + 9 = 0$

a. $x > y$

b. $x \geq y$

c. If $x = y$ or no relation can be established between x and y.

d. $x < y$

e. $x \leq y$

45. Questions

I). $x^2 + 6x - 27 = 0$

II). $y^2 - 7y + 6 = 0$

a. $x > y$

b. $x \geq y$

c. If $x = y$ or no relation can be established between x and y.

d. $x < y$

e. $x \leq y$

Explanations:

1. Questions

The total number of people who watched movies in January = 300

The number of people who watched comedy movies in January = 180

The number of people who watched thriller movies in January = 300 – 180 = 120

Similarly,

Month	Total number of people watched comedy movies	Total number of people watched thriller movies
January	180	120
February	250	250
March	150	210
April	120	180
May	200	200

Answer: B

The number of people who watched comedy movies in February = 250

The number of people who watched with partners = 250*22/100 = 55

The number of people who watched with friends = 250*30/100 = 75

The number of people who watched with families = 250*48/100 = 120

Required average = (120+75)/2 = 97.5

2. Questions

The total number of people who watched movies in January = 300

The number of people who watched comedy movies in January = 180

The number of people who watched thriller movies in January = 300 – 180 = 120

Similarly,

Month	Total number of people watched comedy movies	Total number of people watched thriller movies
January	180	120
February	250	250
March	150	210
April	120	180
May	200	200

Answer: B

The total number of people who watched movies in June = 360 * 4/3 = 480

The number of people who watched comedy movies in June = 180 * 3/2 = 270

The number of people who watched thriller movies in June = 480 – 270 = 210

3. Questions

The total number of people who watched movies in January = 300

The number of people who watched comedy movies in January = 180

The number of people who watched thriller movies in January = 300 – 180 = 120

Similarly,

Month	Total number of people watched comedy movies	Total number of people watched thriller movies
January	180	120
February	250	250
March	150	210
April	120	180
May	200	200

Answer: B

The number of people who watched thriller movies in April =180

The number of people who watched Ring movies in April = 180*5/9 = 100

4. Questions

The total number of people who watched movies in January = 300

The number of people who watched comedy movies in January = 180

The number of people who watched thriller movies in January = 300 – 180 = 120

Similarly,

Month	Total number of people watched comedy movies	Total number of people watched thriller movies
January	180	120
February	250	250
March	150	210
April	120	180
May	200	200

Answer: C

The total number of people who watched thriller movies in all the months = (120 + 250 +210 +180 +200) = 960

5. Questions

The total number of people who watched movies in January = 300

The number of people who watched comedy movies in January = 180

The number of people who watched thriller movies in January = 300 – 180 = 120

Similarly,

Month	Total number of people watched comedy movies	Total number of people watched thriller movies
January	180	120
February	250	250
March	150	210
April	120	180
May	200	200

Answer: B

The number of people who watched comedy movies in March = 150

The number of people who watched thriller movies in May = 200

Required ratio = 150: 200 = 3:4

6. Questions

z^2 -8z -240 =0

z^2 -20z +12z -240 =0

(z -20) (z +8) =0

z = 20

The value of x = 20/2 = 10

The value of y = 100 – 80 = 20

The total number of students who used computers in college D = 300

The total number of students who used computers in all colleges = 300 * 100/10 = 3000

The total number of students who used computers in college A = 3000 * 25/100 = 750

The total number of students who used computers in college B = 3000 * 20/100 = 600

The total number of students who used computers in college C = 3000 * 15/100 = 450

The total number of students who used computers in college E = 3000 * 30/100 = 900

Answer: B

The number of students who used computers in colleges F and G = 300 * 75/100 = 225

The number of students who used computers in college F =750 * 1/5 = 150

The number of students who used computers in college G = 225 – 150 = 75

7. Questions

z^2 -8z -240 =0

z^2 -20z +12z -240 =0

(z -20) (z +8) =0

z = 20

The value of x = 20/2 = 10

The value of y = 100 – 80 = 20

The total number of students who used computers in college D = 300

The total number of students who used computers in all colleges = 300 * 100/10 = 3000

The total number of students who used computers in college A = 3000 * 25/100 = 750

The total number of students who used computers in college B = 3000 * 20/100 = 600

The total number of students who used computers in college C = 3000 * 15/100 = 450

The total number of students who used computers in college E = 3000 * 30/100 = 900

Answer: C

The total number of students who used computers in college D = 300

The number of girls who used computers in college D = 300 * 3/5 = 180

The number of boys who used computers in college D = 300 * 2/5 = 120

The number of boys who used computers in college C = 180

The number of girls who used computers in college C = 450 – 180 = 270

8. Questions

z^2 -8z -240 =0

z^2 -20z +12z -240 =0

(z -20) (z +8) =0

z = 20

The value of x = 20/2 = 10

The value of y = 100 – 80 = 20

The total number of students who used computers in college D = 300

The total number of students who used computers in all colleges = 300 * 100/10 = 3000

The total number of students who used computers in college A = 3000 * 25/100 = 750

The total number of students who used computers in college B = 3000 * 20/100 = 600

The total number of students who used computers in college C = 3000 * 15/100 = 450

The total number of students who used computers in college E = 3000 * 30/100 = 900

Answer: C

The total number of people who used computers in college B = 600

The number of people who used HP computers in college B = 600 * 20/100 = 120

The number of people who used Dell computers in college B = 600 * 15/100 = 90

The number of people who used Acer computers in college B = 600 – 210 = 390

The number of girls who used Acer computers in college B = 390 * 8/13 = 240

Required sum = 240 + 90 = 330

9. Questions

$z^2 - 8z - 240 = 0$

$z^2 - 20z + 12z - 240 = 0$

$(z - 20)(z + 8) = 0$

$z = 20$

The value of x = 20/2 = 10

The value of y = 100 – 80 = 20

The total number of students who used computers in college D = 300

The total number of students who used computers in all colleges = 300 * 100/10 = 3000

The total number of students who used computers in college A = 3000 * 25/100 = 750

The total number of students who used computers in college B = 3000 * 20/100 = 600

The total number of students who used computers in college C = 3000 * 15/100 = 450

The total number of students who used computers in college E = 3000 * 30/100 = 900

Answer: B

The number of students who used computers in college C = 450

The number of students who used computers in college E = 900

Required difference = 900 – 450 = 450

10. Questions

z^2 -8z -240 =0

z^2 -20z +12z -240 =0

(z -20) (z +8) =0

z = 20

The value of x = 20/2 = 10

The value of y = 100 – 80 = 20

The total number of students who used computers in college D = 300

The total number of students who used computers in all colleges = 300 * 100/10 = 3000

The total number of students who used computers in college A = 3000 * 25/100 = 750

The total number of students who used computers in college B = 3000 * 20/100 = 600

The total number of students who used computers in college C = 3000 * 15/100 = 450

The total number of students who used computers in college E = 3000 * 30/100 = 900

Answer: B

The number of girls who used computers in college A = 750 * 7/15 = 350

11. Questions

Answer: D

According to the question,

The present age of A and B = 45 *2 = 90 years

A + B = 90 --(1)

A – B = 10 --(2)

The present age of A = 50 years

The present age of B = 40 years

The present age of C = 40 - 10 = 30 years

The present age of D = 30 * 4/3 = 40 years

12. Questions

Answer: A

According to the question,

The speed of the train = 72*5/18 = 20 m/s

Relative speed of the car with respect to the train = 480/32 = 15 m/s

The speed of the car = 20-15=5 m/s

The speed of the bike = 5 * 0.8 = 4 m/s

The length of the bridge = 4 * 45 = 180 metres.

13. Questions

Answer: B

According to the question,

Let, the total quantity of the mixture =’200y’ litres

Then, the initial quantity of milk = 200y * 0.2 = ‘40y’ litres

The initial quantity of water = 200y-40y = ‘160y’ litres

After replacing,

10% of the mixture with milk, the quantity of milk in the mixture = 40y-40y*0.1+200y*0.1 = ‘56y’ litres

After replacing,

10% of the mixture with milk, the quantity of water in the mixture = 160y-160y*0.1 =’144y’ litres

After replacing,

25% of the resultant mixture with milk, the quantity of milk in the mixture = 56y-56y*0.25+200y*0.25 = ‘92y’ litres

After replacing,

25% of the resultant mixture with milk, the quantity of water in the mixture = 144y-144y*0.25 = ‘108y’ litres

So, required percentage = {92y/(92y+108y)}*100 = 46%

14. Questions

Answer: B

According to the question,

Let, the sum = Rs. x

Difference between SI and CI = $PR^2/100^2$

80 = x * 20 * 20/(100 * 100)

x = 2000

CI = $P(1+R/100)^2 – P$

CI = 2000 * 1.1 * 1.1*1.1 – 2000

CI = 2662 – 2000

CI = Rs. 662

15. Questions

Answer: B

According to the question,

The cost price of the article = Rs. 250

The marked price of the article = 250 * 132/100 = Rs. 330

250*1.32-y=270

Or, 330-y=270

So, y=60

So, required selling price = 400*1.6-120 = 640-120

= Rs. 520

16. Questions

Answer: B

According to the question,

Let, the number of months for which 'A' invested = 'y'

Then, the number of months for which 'B' invested = (y+4)

The ratio of profit shares of A to B = (5600*y):{7700*(y+4)}

= 5600y: (7700y+30800)

According to the question,

5600y*1.65 = 7700y+30800

9240y = 7700y+30800

9240y-7700y = 30800

y = 30800/1540 = 20

17. Questions

Answer: B

According to the question,

Let, the total units = 150 units

The efficiency of pipe 'A' alone = 150/70 = (15/7) litres

The combined efficiency of pipes A and B = 150/21 = (50/7) litres

So, the efficiency of pipe 'B' alone = {(50-15)/7} = 35/7 = 5 litres

So, the quantity of water filled by pipe B alone in 40 minutes = 40*5 = 200 litres

So, the quantity of water wasted = 200-150 = 50 litres

18. Questions

Answer: C

According to the question,

Let, the length of the rectangle = 5x

The breadth of the rectangle = 6x

Perimeter of the rectangle = 2 (l+b) cm

88 = 2 (11x)

x = 4

The length of the rectangle = 20 cm

The breadth of the rectangle = 24 cm

After increased,

The length of the rectangle = 20 * 110/100 = 22 cm

The breadth of the rectangle = 24 * 125/100 = 30 cm

Area of the rectangle = 22 * 30 =660 cm^2

19. Questions

Answer: B

According to the question,

Let, the number = 4a

125% of the number = 4a * 125/100 = 5a

4a * 5a = 6480

$20a^2 = 6480$

a = 18

The number = 4 * 18 = 72

75/100 * 72 = 54

$54 + 4^2 + y = 100$

70 + y = 100

y = 30

20. Questions

Answer: B

According to the question,

The speed of the boat = 24 km/hr

The speed of the stream = 24 * 75/100 = 18 km/hr

The downstream speed = 24 + 18 = 42 km/hr

The upstream speed = 24 – 18 = 6 km/hr

D/42 + D/6 = 64

8D= 64*42

D = 336

Time taken = 2*336/42 = 16 hours

21. Questions

Answer: D

$16 * 35 + 4.5 * 72 – 817 \div 19 = ?^2$

$560 + 324 – 43 = ?^2$

? = 29

22. Questions

Answer: B

31 * 19 + 23 * 15 – 46 * 18 = ?

? = 589 + 345 – 828

? = 106

23. Questions

Answer: C

35% of 80 + 125% of 48 – 55% of 40 = ?

28 + 60 – 22 = ?

? = 66

24. Questions

Answer: E

$((256)^3 \div (32768)) \div \sqrt{64} = 4^?$

$512 / 8 = 4^?$

$4^? = 64$

? = 3

25. Questions

Answer: D

75% of 500 + 45% of 200 = ? * 31

375 + 90 = ? * 31

? = 15

26. Questions

Answer: B

$?^2$ + (1870.11 ÷ √7920) = 14.981 * √530

$?^2$ + 21 = 345

? = 18

27. Questions

Answer: C

$(27.27)^2$ - √6240 = $?^2$ + √5475

729 – 79 = $?^2$ + 74

? = 24

28. Questions

Answer: D

55.09% of 119.89 = 44.18% of ? - √5930

66 + 77 = 44/100 * ?

? = 325

29. Questions

Answer: A

24.31 – 12.15 ÷ 3.42 = 12.72 * ?

=> 24 – 12/3 = 13 * ?

=> 2

30. Questions

Answer: C

12.12 * 10.91 * 8.78 ÷ ? = 14.68

12 * 11 * 9÷ ? = 15

=> 1188/15

=> 79

31. Questions

Answer: A

38 + 7 * 3 = 59

59 – 7 * 5 = 24

24 + 7 * 7 = 73

73 – 7 * 9 = **10**

10 + 7 * 11 = 87

32. Questions

Answer: E

5 * 1 + 2 = 7

7 * 2 + 3 = 17

17 * 3 + 4 = 55

55 * 4 + 5 = **225**

225 * 5 + 6 = 1131

33. Questions

Answer: D

1 * 3 = 3

3 + 17 = 20

20 * 2 = 40

40 + 17 = **57**

57 * 1 = 57

34. Questions

Answer: B

$9 + 9^2 = 90$

$90 + 8^2 = 154$

$154 + 7^2 = 203$

$203 + 6^2 = 239$

$239 + 5^2 = \mathbf{264}$

35. Questions

Answer: C

11 + (1 + 7) = 19

19 + (3 + 9) = **31**

31 + (5 + 11) = 47

47 + (7 + 13) = 67

67 + (9 + 15) = 91

36. Questions

Answer: B

3 * 2 = 6

6 * 4 = 24

24 * 6 = **144**

144 * 8 = 1152

1152 * 10 = 11520

37. Questions

Answer: A

2 * 1 + 1 = 3

3 * 2 + 2 = 8

8 * 3 + 3 = 27

27 * 4 + 4 = **112**

112 * 5 + 5 = 565

38. Questions

Answer: E

36 + 1 = 37

$37 - 2^2 = 33$

33 + 3 = **36**

$36 - 4^2 = 20$

20 + 5 = 25

39. Questions

Answer: C

$8^2 - 1 = 63$

$7^2 - 2 = 47$

$6^2 - 3 = 33$

$5^2 - 4 = 21$

$4^2 - 5 = 11$

$3^2 - 6 = \mathbf{3}$

40. Questions

Answer: D

375/5 = 75

75 * 4 = 300

300/3 = 100

100 * 2 = 200

200/1 = **200**

41. Questions

Answer: C

$x^2 + x - 342 = 0$

$x^2 + 19x - 18x - 342 = 0$

$x(x + 19) - 18(x + 19) = 0$

$x = 18, -19$

$y^2 + 13y - 338 = 0$

$y^2 + 26y - 13y - 338 = 0$

$y(y + 26) - 13(y + 26) = 0$

$y = 13, -26$

Relationship between x and y cannot established.

42. Questions

Answer: D

$x + 6y = 111$ ------(1)

$3x + 4y - 109 = 0$ -----(2)

From (1) and (2)

$14y = 224$

$y = 16$

$x = 15$

$x < y$

43. Questions

Answer: A

$x^2 - 38x + 361 = 0$

$x^2 - 19x - 19x + 361 = 0$

$x(x - 19) - 19(x - 19) = 0$

$x = 19, 19$

$y^2 - 13y - 90 = 0$

$y^2 - 18y + 5y - 90 = 0$

$y(y - 18) + 5(y - 18) = 0$

$y = 18, -5$

$x > y$

44. Questions

Answer: B

$x^2 - 22x + 117 = 0$

$x^2 - 9x - 13x + 117 = 0$

$x(x - 9) - 13(x - 9) = 0$

$x = 9, 13$

$y^2 - 10y + 9 = 0$

$y^2 - 9y - y + 9 = 0$

$y(y - 9) - 1(y - 9) = 0$

$y = 9, 1$

$x \geq y$

45. Questions

Answer: C

$x^2 + 6x - 27 = 0$

$x^2 + 9x - 3x - 27 = 0$

$x(x + 9) - 3(x + 9) = 0$

$x = 3, -9$

$y^2 - 7y + 6 = 0$

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

$y(y - 6) - 1(y - 6) = 0$

$y = 6, 1$

Relationship between x and y cannot be established.