
Problem Solving

Posted by Vijay - 2009/07/04 00:23

n is an integer chosen at random from the set

{5, 7, 9, 11 }

p is chosen at random from the set

{2, 6, 10, 14, 18}

What is the probability that $n + p = 23$?

- A. 0.1
- B. 0.2
- C. 0.25
- D. 0.3
- E. 0.4

A dress on sale in a shop is marked at \$ D . During the discount sale its price is reduced by 15%. Staff are allowed a further 10% reduction on the discounted price. If a staff member buys the dress what will she have to pay in terms of D ?

- A. 0.75 D
- B. 0.76 D
- C. 0.765 D
- D. 0.775 D
- E. 0.805 D

The number of degrees that the hour hand of a clock moves through between noon and 2.30 in the afternoon of the same day is

- A. 720
- B. 180
- C. 75
- D. 65
- E. 60

Jeff takes 20 minutes to jog around the race course one time, and 25 minutes to jog around a second time. What is his average speed in miles per hour for the whole jog if the course is 3 miles long?

- A. 6
- B. 8
- C. 10
- D. 12
- E. 14

A wheel has a diameter of x inches and a second wheel has a diameter of y inches. The first wheel covers a distance of d feet in 100 revolutions. How many revolutions does the second wheel make in covering d feet?

- A. 100 xy
- B. 100 $y - x$
- C. 100 $x - y$
- D. 100 y / x
- E. 100 x / y

The total weight of a tin and the cookies it contains is 2 pounds. After $\frac{3}{4}$ of the cookies are eaten, the tin and the remaining cookies weigh 0.8 pounds. What is the weight of the empty tin in pounds?

- A. 0.2
- B. 0.3
- C. 0.4
- D. 0.5
- E. 0.6

If $y \propto x = y2x$ for all positive integers, then $(3 \propto 4) \propto 2 =$

- A. 3^8
- B. 3^{12}
- C. 3^{16}
- D. 3^{24}
- E. 3^{32}

Re:Problem Solving

Posted by praghuwa - 2009/07/04 11:45

1) Please let me know the solution.

2) Original Price = \$D

After 1st discount of 15% price = $D - .15D = .85D$
 Further 10% discount will make price = $.85D - .085D$
 = $.765D$

Ans C

3) Hour hand moves by 30 degree every hour

So in 2 and 1/2 hour it will move = $30+30+15 = 75$

Ans C

4) Speed during 1st jog = $3/20 * 60 = 9$ miles/hour

Speed during 1st jog = $3/25 * 60 = 36/5$ miles/hour

∴ Avg speed = $\frac{\text{Speed 1} + \text{Speed 2}}{2}$
 = $9 + 7(\text{approx})/2 = 8$ miles/hour

Ans B

5) Consider $\pi = 3.1414$

One revolution = circumference = $2\pi r$

For wheel x circumference = $2\pi x/2 = \pi x$ in one revolution.

∴ In 100 revolution = $100\pi x = d(\text{given})$

Let wheel y takes n revolution to complete distance d

∴ $n\pi y = d$
 $\Rightarrow n\pi y = 100\pi x$
 $\Rightarrow n = 100x/y$

Ans E

6) Tin + Cookies weight = 2 pound

3/4 of cookies weight = $2 - .8 = 1.2$ pound

. . All cookies weight = 1.6 pound

And Empty tin weight = 2- 1.6 = .4 pound

Ans C

7) Taking special character as \$. $y\$x = y*2*x$

$$3\$4 = 3*2*4 = 24$$

. . $(3\$4)\$2 = 24\$2 = 24*2*2 = 96$

Ans : Not available. Am I correct?

Re:Problem Solving

Posted by Vijay - 2009/07/04 16:23

Sorry praghwa , initially there was an error in the 1st question that i had posted,which has been corrected and explained.

1) Correct Answer: A

Each of the integers in the first set could be combined with any from the second set, giving a total of $4 \times 5 = 20$ possible pairs.

Of these the combinations that could give a sum of 23 are $(5 + 18)$, and $(9 + 14)$

This means that the probability of getting a sum of 23 is $2/20 = 1/10$

2) Correct Answer: C

If the price is reduced by 15 %, then the new price will be $0.85D$

If this new price is further reduced by 10%, the discounted price will be $0.9 \times 0.85D = 0.765D$

3) Correct Answer: C

The hour hand moves from pointing to 12 to pointing to half way between 2 and 3. The angle covered between each hour marking on the clock is $360/12 = 30$. Since the hand has covered 2.5 of these divisions the angle moved through is 75.

4) Correct Answer: B

Average speed = total distance / total time

Total distance covered = 6 miles; total time = 45 minutes = 0.75 hours

Average speed = $6/0.75 = 8$ miles/hour

Re:Problem Solving

Hi,
Thanks for the reply.
Can you please look into the last question options as well?

=====

Re:Problem Solving

Posted by Vijay - 2009/07/04 17:46

5) A wheel has a diameter of x inches and a second wheel has a diameter of y inches. The first wheel covers a distance of d feet in 100 revolutions. How many revolutions does the second wheel make in covering d feet?

- A. $100xy$
- B. $100y - x$
- C. $100x - y$
- D. $100y / x$
- E. $100x / y$

Explanation:

Answer-E

Use Plug in for this question

Suppose $X=10$ $Y=20$
Distance - $100 Y = 20 = 5$

$$100 X / Y = 100 * 10 / 20 = 50$$

6)The total weight of a tin and the cookies it contains is 2 pounds. After $\frac{3}{4}$ of the cookies are eaten, the tin and the remaining cookies weigh 0.8 pounds. What is the weight of the empty tin in pounds?

- A. 0.2
- B. 0.3
- C. 0.4
- D. 0.5
- E. 0.6

Explanation:

Answer-C

Use Plug in for this question

Suppose total cookies-12
 $\frac{3}{4}$ are eaten - 9
The tin and the remaining 3 cookies weigh 0.8 pounds
weight of 3 Cookies- 0.4
 $1.2+0.4 = 1.6$ total of all cookies
Tin= 0.4

=====

Re:Problem Solving

Posted by Vijay - 2009/07/04 18:31

7) If $y \propto x = y^2x$ for all positive integers, then $(3 \propto 4) \propto 2 =$

- A. 3^8
- B. 3^{12}
- C. 3^{16}
- D. 3^{24}
- E. 3^{32}

Explanation:

Answer-E

The \times symbol tells us what operation to carry out on x and y

Carry out the same procedure on 3 and 4 first. So 3^8 is the result.

Now carry out the procedure on 3^8 and 2. So $(3^8)^4$ is the result, which is equivalent to 3^{32}

=====

Re:Problem Solving

Posted by Huzefa - 2009/07/05 13:12

Hi Vijay..

Great Questions!! Can you hold a few of the answers back until we get a sufficient amount of replies?

You're doing a wonderjob job. Keep posting.

=====

Re:Problem Solving

Posted by Vijay - 2009/07/05 14:18

Thanks
will do the needful.

=====