1

Rita and Sam play the following game with n sticks on a table. Each must remove 1,2,3,4, or 5 sticks at a time on alternate turns, and no stick that is removed is put back on the table. Tha one who removes the last stick (or sticks) from the table wins. If Rita goes first, which of the following is a value of n such that Sam can always win no matter how Rita plays?

A. 7
B. 10
C. 11
D. 12
E. 16

2

Each week, Harry is paid x dollars per hour for the first 30 hours and 1.5x dollars for each additional hour worked that week. Each week, James is paid x dollars per hour for the first 40 hours and 2x dollars for each additional hour worked that week. Last week James worked a total of 41 hours. If Harry and James were paid the same amount last week, ho wmany hours did Harry work last week?

A. 35
B. 36
C. 37
D. 38
E. 39

3

A certain theater has 100 balcony seats. For every $2 increase in the price of a balcony seat above $10, 5 fewer seats will be sold. If all the balcony seats are sold when the price of each seat is $10, which of the following could be the price of a balcony seat if the revenue from the sale of balcony seats is $1,360 ?

A. $12
B. $14
C. $16
D. $17
E. $18

4

A certain telephone company offers two plans, A and B. Under plan A, the company charges a total of $0.60 for the first 7 minutes of each call and $0.06 per minute thereafter. Under plan B, the company charges $0.08 per minute of each call. What is the duration of a call, in minutes, for which the company charges the same amount under plan A and under plan B?

A. 2
B. 9
C. 15
D. 21
E. 30

5

A company hired a printer to produce a total of x + 1 envelopes. The job consisted of two types of envelopes, 2¢ envelopes and 5¢ envelopes. If the company requested 3 more 2¢ envelopes than 5¢ envelopes, which of the following expressions denotes the cost, in cents, of the total x + 1 envelopes ?

A) 3x + 1

B) (7x - 2)/2

C) 11x + 31

D) (7x - 6)/2

E) (13x + 3)/2