



## Bell Ringer

January 29, 2013

I'm trying to open the lock on my sister's diary, but all I know is that the entry code is an arrangement of the four letters  $A$ ,  $B$ ,  $C$ , and  $D$ , with the  $D$  appearing somewhere to the left of the  $B$ . What is the maximum number of arrangements that I'll have to try to discover the entry code?



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12

The possible patterns are DBxx, DxBx, DxxB, xDBx, xDxB, and xxDB. For each of these six, there are two ways to insert the A and C to replace the x's. The total number of possible arrangements is  $6 \times 2 = 12$



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January 30, 2013

Which two elements in the periodic table have English names ending with the letter D?



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Lead and Gold



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January 31, 2013

Cathy did some shopping. In the first store she spent one-quarter of the money she had, plus \$5. In the second store she spent half of what was left, plus \$6. In the last store she spent one-eighth of what was left and came home with \$7. How much did she start out with?



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**\$44**

**Work backward:**

$$8/7 \times \$7 = \$8$$

$$2 \times (\$8 + \$6) = \$28$$

$$4/3 \times (\$28 + \$5) = \$44$$



# Bell Ringer

February 1, 2013

In this magic square, every row, every column, and both main diagonals add up to the same value, which you must determine. There is only one way to complete the square. Can you find it?

11	2	
		4



# Bell Ringer

February 1, 2013

In this magic square, every row, every column, and both main diagonals add up to the same value, which you must determine. There is only one way to complete the square. Can you find it?

11	2	17
16	10	4
3	18	9