

Name: \_\_\_\_\_

Tuesday Warm-Up

1. If you run 2 miles a day every weekday (5 days a week), how far will you run in 6 weeks?

That was easy. But what if you ran 2 miles a day every day of the week (all 7 days) for 6 weeks?

Well, in one week you would run  $(7 \times 2) = 14$  miles.

So, in 6 weeks you would run 6 times that, or  $6 \times 14$  miles.

Okay, how do you multiply  $6 \times 14$ ? (No, you don't add 14 six times.)

You use the distributive property.

First, expand 14 (write 14 in expanded form) as  $(10 + 4)$ .

Now, multiply  $(10 + 4)$  by 6, using the distributive property:

$$6 \cdot 14 = 6 \cdot (10 + 4) = (6 \cdot \underline{\quad\quad\quad}) + (6 \cdot \underline{\quad\quad\quad})$$

$$= \underline{\quad\quad\quad} + \underline{\quad\quad\quad}$$

$$= \underline{\quad\quad\quad}$$

You can use this method (expand and use the distributive property) to multiply *any* multi-digit number by *any* one-digit number.

2. Multiply  $6 \times 23$  by *expanding and using the distributive property*.