

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Use the associative property to rewrite each expression. Solve using disks and then complete the number sentences.

a.  $20 \times 34$

$$= (\underline{\quad} \times 10) \times 34$$

$$= \underline{\quad} \times (10 \times 34)$$

$$= \underline{\quad}$$

hundreds	tens	ones

b.  $30 \times 34$

$$= (3 \times 10) \times \underline{\quad}$$

$$= 3 \times (10 \times \underline{\quad})$$

$$= \underline{\quad}$$

thousands	hundreds	tens	ones

c.  $30 \times 42$

$$= (3 \times \underline{\quad}) \times \underline{\quad}$$

$$= 3 \times (10 \times \underline{\quad})$$

$$= \underline{\quad}$$

thousands	hundreds	tens	ones

2. Use the associative property and number disks to solve.

a.  $20 \times 16$

b.  $40 \times 32$

3. Use the associative property without number disks to solve.

a.  $30 \times 21$

b.  $60 \times 42$

4. Use the distributive property to solve the following. Distribute the second factor.

a.  $40 \times 43$

b.  $70 \times 23$