

**Homework #13 review:**

There were several books on the shelf. On the second shelf, there were 4 times more books than on the first shelf. When 21 books were moved from the second shelf to the first shelf, the number of books on both shelves became equal. How many books were there on the first shelf at the beginning?

An above ground pool can be filled by RED pipe in 5 hours and emptied by BLUE pipe in 7. How long it will take to fill up the same pool if you open RED pipe in and BLUE pipe out. Is it possible at all?

**Distributive property of an expression:**

$$(a + b) \cdot (c + d) = ?$$

Let's do the substitution:

$$a + b = u$$

Now let's use the distributive property:

$$(a + b) \cdot (c + d) = u(c + d) = uc + ud$$

Now let's put back  $(a + b)$  instead of  $u$ :

$$uc + ud = (a + b)c + (a + b)d$$

Finally, let's use the distributive property again:

$$(a + b)c + (a + b)d = ac + bc + ad + bd$$

$$(a + b) \cdot (c + d) = ac + bc + ad + bd$$

Multiply using distributive property:

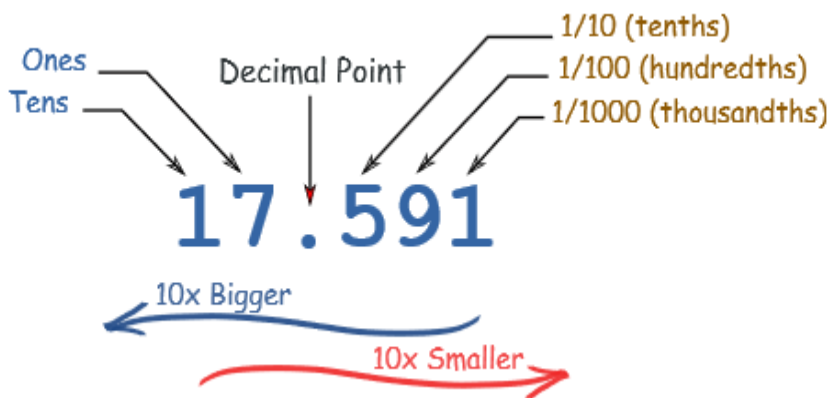
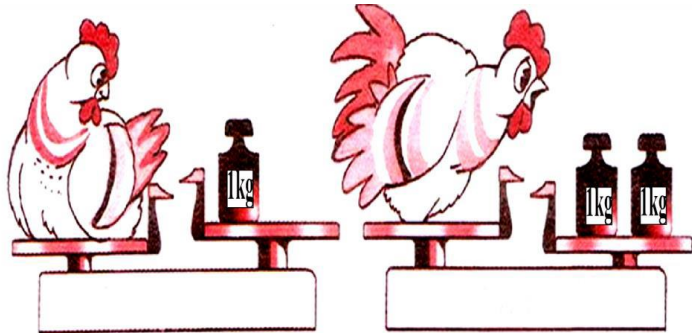
$$(25 + a) \cdot (4 + d) =$$

$$(7 - a) \cdot (d - 6) =$$

$$(14 + a) \cdot (-9 - b) =$$

1. If one secretary can type a report in 2 hours, and another secretary can type the same report in 3 hours, how long it will take them to type it if they do it together? (hint: what fraction of the report can each of them type in one hour?)

### Decimals:



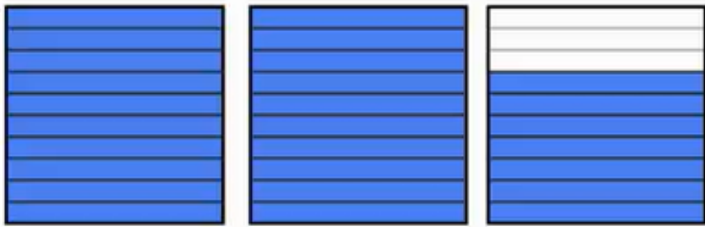
- A **decimal number** is a number with a **decimal point** in it.
- The **number** to the left of the **decimal** is an ordinary whole **number**.
- The first **number** to the right of the **decimal** is the **number** of tenths (1/10's).
- The second is the **number** of hundredths (1/100's) and so on.

How do I say:      1.3?      3.45?      45.679?

- In 590.2, in which place is the 2?
- In 8.92, which digit is in the ones place?
- In 58.2, in which place is the 8?
- In 7,014.35, which digit is in the hundredths place?
- Are 0.69 and 0.6900 equivalent decimals?
- Are 0.9 and 0.90 equivalent decimals?
- Are 0.0340 and 0.340 equivalent decimals?

**1. Write a decimal number corresponding to a shaded area**

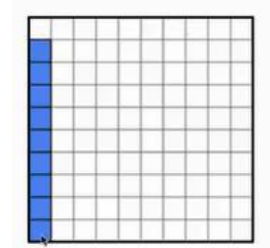
A)



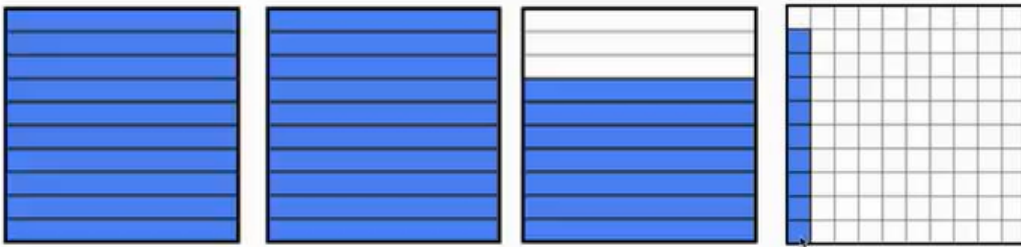
B)



C)



D)



**2. Write in decimal notation the following fractions:**

$2\frac{4}{10} =$	$1\frac{1}{10} =$
$4\frac{9}{10} =$	$4\frac{333}{1000} =$
$24\frac{25}{100} =$	$8\frac{45}{1000} =$
$98\frac{3}{100} =$	$75\frac{8}{10000} =$
$1\frac{1}{100} =$	$9\frac{565}{10000} =$

**3. Compute:**

$$1.2 + 2.3 + 3.4 + 4.5 + 5.6 =$$

$$18.8 + 19 - 12.2 + 0.6 + 11 =$$

**4. Choose the expanded form corresponding to the number 57.142**

(A)  $(5 \times 10) + (7 \times 1) + \left(1 \times \frac{1}{1000}\right) + \left(4 \times \frac{1}{100}\right) + \left(2 \times \frac{1}{10}\right)$

---

(B)  $(5 \times 10) + (7 \times 10) + \left(1 \times \frac{1}{1000}\right) + \left(4 \times \frac{1}{100}\right) + \left(2 \times \frac{1}{10}\right)$

---

(C)  $(5 \times 10) + (7 \times 1) + \left(1 \times \frac{1}{10}\right) + \left(4 \times \frac{1}{100}\right) + \left(2 \times \frac{1}{1000}\right)$

**5. Write the number 340.027 in the expanded form:**