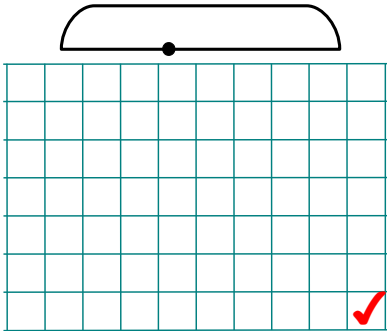# Lesson 1 HW

1 In **your notebook** solve the equations by making a diagram:
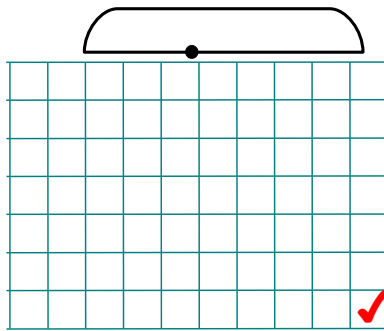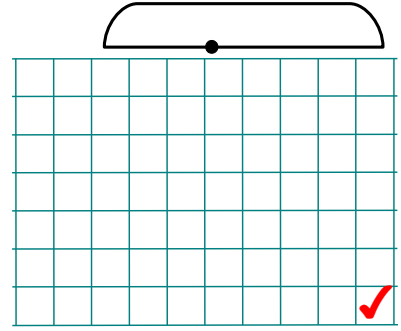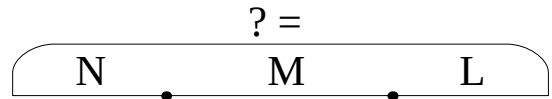
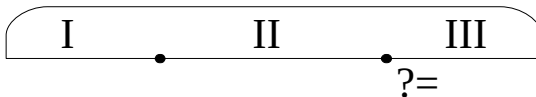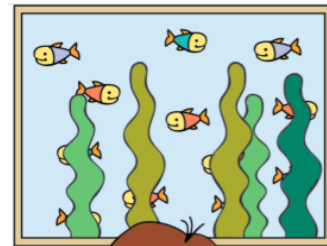$$x - 124 = 76 \qquad y + 28 = 132 \qquad 500 - z = 134$$

2 Use the diagrams to solve the word problems

A. Nick has 12 pencils, Mike has 7 pencils, Lisa has 8 pencils. How many pencils do the three kids have altogether?

? =

N   M   L

B. There are 12 fish in an aquarium. The second aquarium has 5 more fish than the first. How many fish are in the third aquarium if there are 50 fish in all three?

I   II   III

?=

C. A taxi driver used 12 gallons of gasoline on Monday. This is 4 gallons less than the amount of gasoline he used on Tuesday. How many gallons of gasoline did he use in those two days?

? =

M   T
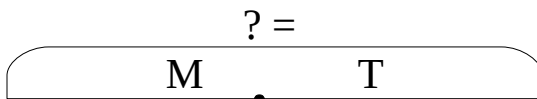
3 Determine the order of operations in the expressions.

$$m + (n - k) - (t + k) \qquad\qquad m + (n - k - t) + k$$

$$(m + n) - k - (t + d) \qquad\qquad m + n - (k - t + k)$$

4 Compare:

$254 - a \;\square\; 204 - a$ $\qquad$ $m - 74 \;\square\; m - 47$ $\qquad$ $c + d \;\square\; d + c$

$b - 287 \;\square\; b - 56$ $\qquad$ $210 + n \;\square\; 215 + n$ $\qquad$ $40 - k \;\square\; 540 - k$

5 Compare:

$28 - 5 \;\square\; 28 - (5 + 1)$ $\qquad$ $p - 8 \;\square\; p - (8 + 3)$ $\qquad$ $32 - x \;\square\; 32 - (x + 2)$

$28 - 5 \;\square\; 28 - (5 - 2)$ $\qquad$ $p - 8 \;\square\; p - (8 - 1)$ $\qquad$ $26 - y \;\square\; 26 - (y - 3)$

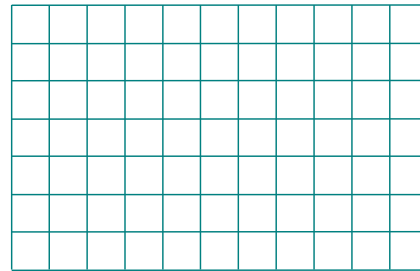$28 - 5 \;\square\; 28 - (5 + a)$ $\qquad$ $q - 8 \;\square\; q - (8 + m)$ $\qquad$ $q - a \;\square\; q - (a + m)$

$28 - 5 \;\square\; 28 - (5 - b)$ $\qquad$ $q - 8 \;\square\; q - (8 - n)$ $\qquad$ $q - b \;\square\; q - (b - n)$

6 Write the appropriate equations and solve them.

$+ 17$

$\boxed{x} \longrightarrow \boxed{88}$

$- 32$

$\boxed{y} \longrightarrow \boxed{13}$
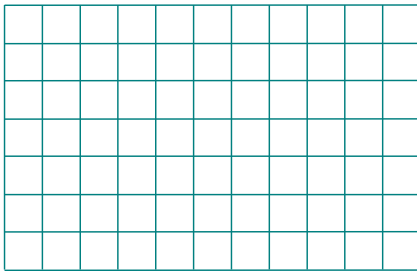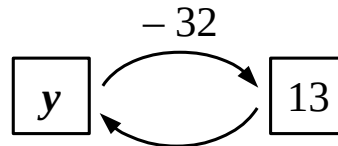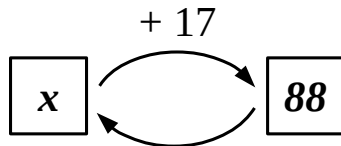
7 Determine the order of operations and evaluate the expressions:

$215 - (38 + 169) =$ $\qquad\qquad$ $500 - (239 + 85) + 457 =$

$(357 + 194) - 263 =$ $\qquad\qquad$ $(304 - 26) - (72 + 168) =$

8 Express in decimeters and centimeters:

$54 \text{ cm} = \square \text{ dm } \square \text{ cm}$ $\qquad$ $80 \text{ cm} = \square \text{ dm } \square \text{ cm}$ $\qquad$ $122 \text{ cm} = \square \text{ dm } \square \text{ cm}$

9 Express in cm:

24 dm = ☐ cm   66 dm = ☐ cm   30 dm = ☐ cm

2 dm 7 cm = ☐ cm   8 dm 5 cm = ☐ cm   80 dm 5 cm = ☐ cm

1 m 3 dm 4 cm = ☐ cm   4 m 6 dm 1 cm = ☐ cm   2 m 7 dm = ☐ cm

10 Replace:
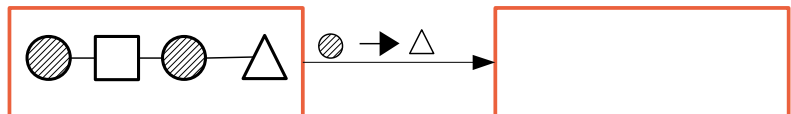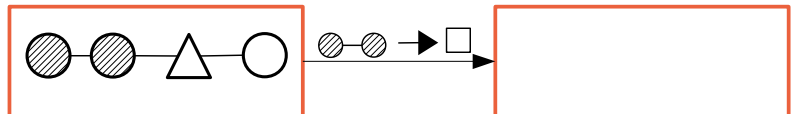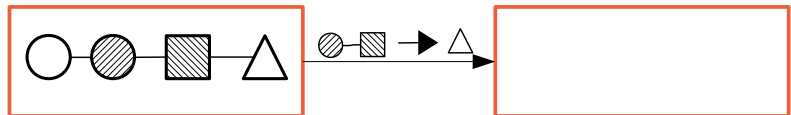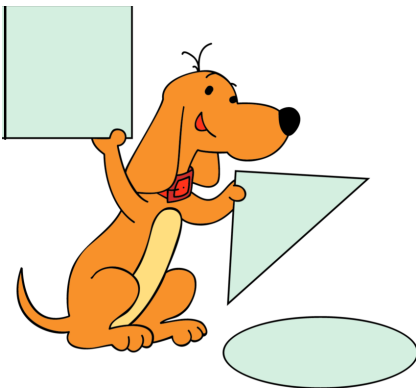
11 Transform the equations by doing replacements according to the instructions

$$12 - x \div 2 = 4 \quad \xrightarrow{\; x \div 2 \to z \;}$$

$$t = 5 \quad \xrightarrow{\; t \to u \cdot 3 \;}$$

$$7 + m + n = 16 \quad \xrightarrow{\; q = m + n \;}$$

$$12 \div x + 7 = 10 \quad \xrightarrow{\; 12 \div x = t \;}$$

12 Calculate:

```
    6 1 4          4 0 7        • 9 10        • 9 10
  + 3 2 9        + 3 0 9        5 0 2         7 0 0
  ─────────      ─────────    − 2 3 5       − 5 2 1
                              ─────────     ─────────
```

13 Perform the sequences of actions according to the algorithms on the drawing below. Label each algorithm as *linear, or branching, or cyclic.*

Left algorithm:

a → + 9 → − 7 → + 38 → x

a	5	14	20
x			

Middle algorithm:

a → + 7 → < 18 ?
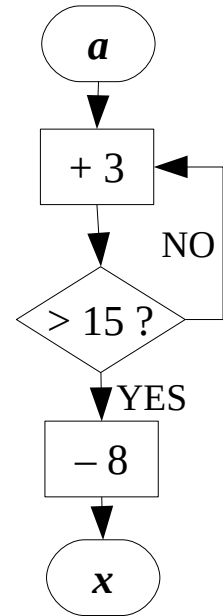YES → − 4
NO → + 7
→ x

a	5	14	20
x			

Right algorithm:
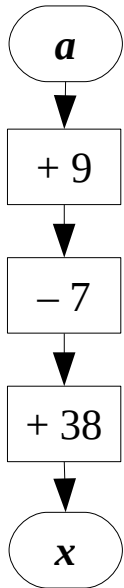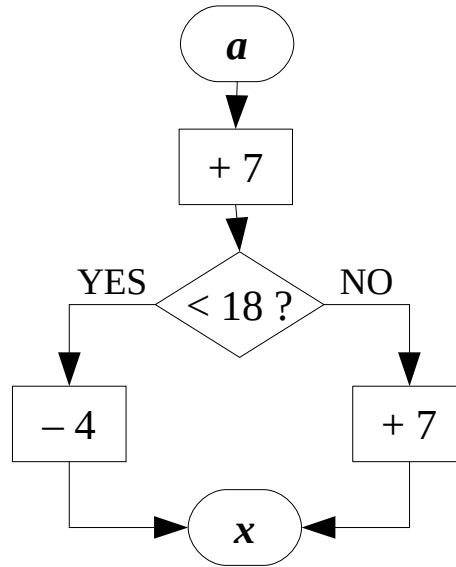
a → + 3 → > 15 ?
NO (loop back to + 3)
YES → − 8 → x

a	5	14	20
x			

14 Determine the order of operations in the expressions:

$a + (b − c) + (d + m) − k$ $a + c − b + d − p + q$

$(m − k) + (x − y) − (a + c)$ $m − (a + b − c) + (m − n)$

15 Insert the missing digits and check your work:

$$+\begin{array}{r} 3\square5 \\ \square1\square \\ \hline 739 \end{array} \qquad +\begin{array}{r} \square2\square \\ 5\square3 \\ \hline 741 \end{array} \qquad -\begin{array}{r} \square\square6 \\ 34\square \\ \hline 542 \end{array} \qquad -\begin{array}{r} 62\square \\ \square\square3 \\ \hline 542 \end{array}$$

Check: