## Math 3 Homework 13

1 Compare the expressions without calculating its values. Use $<,>,=$
$9 \times 50$ $\qquad$ $90 \times 5$
$40 \times 3 \_20 \times 6$
$200 \times 3$ $\qquad$ $20 \times 30$
$80 \times 5$ $\qquad$ $8 \times 20$
$15 \times 8$ $\qquad$ $80 \times 5$
$50 \times 6$ $\qquad$ $30 \times 5$

Insert the sign "-" where needed to make the equality correct:

$$
\begin{array}{llllllll}
6 & 1 & 5 & 1 & 4 & 1 & 3 & 1=1
\end{array}
$$

A bug is moving along a straight line. It started moving from the position $\mathrm{A}_{0}$ and in 2 minutes went into position $\mathrm{A}_{2}$. Using a compass and a straightedge find ...
A. ... the position of the bug after the first minute (point A1).
B. ... the position of the bug after 3 minutes (point A3).


4 Imagine that a circle with center $A$ is drawn on 1 cm grid paper as shown below. What is the radius of the circle?


A few things around us that are circular in shape are a car tire, a wall clock that tells time, and a lollipop. Give at least two more example of the things with a circular shape around us.
$\qquad$
$\qquad$

6
All of these figures have something in common. What is it? $\qquad$


None of these has it. What is it? $\qquad$


Which of these has it? What is it? $\qquad$


## Explain.

Compare using $<,>$ or $=$ :
810 cm $\qquad$ 8 m

6 m 57 cm $\qquad$ 657 cm

7 m $\qquad$ 75 cm

360 cm $\qquad$ 3 m 60 mm

1 m $\qquad$ 100 mm

365mm $\qquad$ 36 m 5 mm

Adjacent angles: Two angles are Adjacent when they have a common side and a common vertex (corner point) and don't overlap. In the example at right, $\angle \mathrm{ABC}$ and $\angle \mathrm{CBD}$ are adjacent angles.


Supplementary angles: Two angles A and B for which A $+\mathrm{B}=180^{\circ}$. Each angle is called the supplement of the other. In the example at left, angles A and B are supplementary. Supplementary angles are often adjacent. For example, since $\angle \mathrm{LMN}$ is a straight angle, then $\angle \mathrm{LMP}$ and $\angle \mathrm{PMN}$ are supplementary angles because $\angle \mathrm{LMP}+\angle \mathrm{PMN}=180^{\circ}$.


Find all pairs of supplementary angles on the drawing. Measure these angles with a protractor. Write down your results. Make sure supplementary angles add up to $180^{\circ}$.
$\angle \mathrm{AOB}=50^{\circ}$ and $\angle \mathrm{BOD}=$ $\qquad$


Compare, using <, > or =:
9

$$
32-x \_32-(x+2)
$$

$32+x \_32+(x+2)$
$26-y$ $26-(y-3)$
$26+y \_\_26+(y-3)$
$b-a$ $\qquad$ $b-(a-n)$
$b+a \_\_b+(a+m)$
$b-c$ $\qquad$ $b-(c-n)$
$b+c \_\ldots \quad b+(c-n)$

Write down the numerical expression and calculate the value:
a) The length of a newborn baby whale was 5 m 3 dm 2 cm . Once he grew up, he was 32 m 6 dm 7 cm long! How much did he grow? $\qquad$
b) The seedling was 1 dm and 5 cm when it was planted. After two years, the plant was 2 m 3 dm and 8 cm high. How much did the plant grow over two years? $\qquad$

Use long multiplication to find answers to each of the following problems:
11


12 There are two blackboards in the classroom. Both boards are 1 m long. The height of the 1 st board is three dm less than the height of the 2nd board. Calculate the perimeters of each blackboard. How many dm smaller is the perimeter of the 1st board than the perimeter of the 2 nd board?
$\mathrm{P}_{1}=$ $\qquad$
$\mathrm{P}_{2}=$ $\qquad$

## 13

Look at the sketch below.
a) Using a compass, draw a circle with a radius of 4 cm .

## Reminder:

Step 1: Use a ruler to set the distance from the point of the compass to the pencil's lead at 4 cm .
Step 2: Place the point of the compass at the point A (point A will be the center of the circle).
Step 3: Draw the circle by turning the compass through $360^{\circ}$.

b) Mark the point where the circle intersects a line with a point B.

c) Using a compass, draw another circle with a radius of 4 cm and the center in a point B .
d) Mark the points of intersection of two circles with points $C$ and $D$.
e) Using a ruler, measure the distance between points C and D . What is the result of your measurement: $\qquad$ cm ?

