

Complete the half sheet from the stool

1. A line, $y = mx + b$, passes through the point $(2, 9)$ and is parallel to ~~$y = 3x + 3$~~ . What is the value of b ?

$$m = 3 \quad (2, 9)$$

$$y = 3x + 3$$

$$y = mx + b$$

$$9 = 3(2) + b$$

$$9 = 6 + b$$

$$\begin{array}{r} -6 \quad -6 \\ \hline b = 3 \end{array}$$

2. Water is being pumped into a 10-foot-tall cylindrical tank at a constant rate.

• The depth of the water is increasing linearly.

• At ~~1:30 p.m.~~⁰, the water depth was 2.4 feet. $(0, 2.4)$

• It is now ~~4:00 p.m.~~^{2.5} and the depth of the water is 3.9 feet.

$$2.5 \quad (2.5, 3.9)$$

What will the depth (in feet) if the water be at ~~5:00 p.m.~~^{3.5}?

$$\frac{3.9 - 2.4}{2.5 - 0} = \frac{1.5}{2.5} = \frac{3}{5}$$

$$y = \frac{3}{5}x + 2.4$$

$$y = \frac{3}{5}(3.5) + 2.4$$

$$2.1 + 2.4$$

$$y = 4.5 \text{ ft}$$

$$\begin{array}{r} 3.5 \\ \times 3 \\ \hline 10.5 \end{array}$$

$$\begin{array}{r} 10.5 \\ \hline 5 \\ 2.1 \end{array}$$

Complete the
"Review" section
of the HW sheet
from last night

With a partner...

Unit 7
Polynomials Unit
STUDY GUIDE

**EXIT
TICKET**