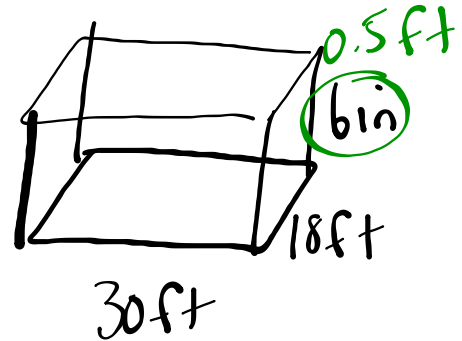


p. 184 #7

7. Blueberry farmers use peat moss as mulch around blueberry bushes to conserve moisture and prevent weeds. A farmer has a blueberry field that is 30 ft long and 18 ft wide. He wants to lay 6 in of mulch on the field. He can buy a 1 yd<sup>3</sup> bale of peat moss for \$39.00 or a 3.8 ft<sup>3</sup> bale for \$12.49. Which size bale would give the farmer the best total price?



$$V = 30 \times 18 \times 0.5$$

$$= 270 \text{ ft}^3$$

convert  $\rightarrow 270 \text{ ft}^3 \times \frac{1 \text{ yd}^3}{3^3 \text{ ft}^3}$

$$= 10 \text{ yd}^3$$

$$\begin{aligned} \# \text{ of bales} &= \frac{270}{3.8} \\ &= 72 \text{ bales} \end{aligned}$$

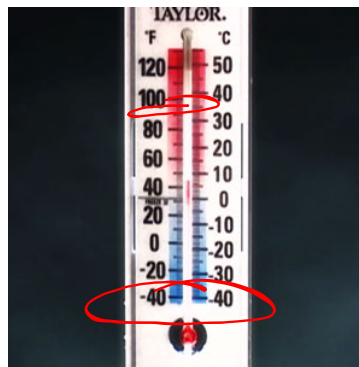
$$\begin{aligned} \text{Cost} &= 72 \times 12.49 \\ &= \text{\$}899.28 \end{aligned}$$

$$\begin{aligned} \text{Cost} &= 10 \times 39 \\ &= \text{\$}390 \end{aligned}$$

↑ BEST buy yd<sup>3</sup>

## Chapter 5: Mass, Temperature, and Volume

We will look at further conversions between the metric and imperial systems in this chapter and learn how to apply them to real life situations.



## Temperature

Have you ever noticed how cooking temperatures for most frozen meals are given in °F yet we measure the outside temperature in °C? How do we compare the temperatures in these two systems of measurement?



**BAKE**

1. Preheat oven to 400°F. Remove plastic wrap from meatballs and place meatballs in a baking dish. Heat meatballs thoroughly according to times below or until internal temperature reaches 160°F.

**Defrosted:** 20-25 minutes

**Frozen:** 30-35 minutes

**MICROWAVE**

1. Remove plastic wrap from meatballs and place meatballs in a microwave safe dish. Heat meatballs thoroughly according to times below or until internal temperature reaches 160°F.

**Defrosted:** 3-5 minutes

**Frozen:** 5-7 minutes

**CROCKPOT**

1. Remove plastic wrap from meatballs. Place meatballs in crockpot and heat on highest setting according to times below or until internal temperature of meatballs reaches 160°F.

**Defrosted:** 1.5-2 hours, stirring periodically for even heating

**Frozen:** 2-2.5 hours, stirring periodically for even heating

**STOVETOP**

1. Preheat nonstick skillet to medium low heat. Remove plastic wrap from meatballs and place meatballs in skillet. Panfry over medium low heat, covered, according to times below or until internal temperature reaches 160°F.

**Defrosted:** 16-20 minutes, turn frequently for even heating

**Frozen:** 20-25 minutes, turn frequently for even heating

Appliances vary. Heating times approximate.

## 5.1 - Temperature Conversions

- Read Math on the Job p. 188

### **FACTS...**

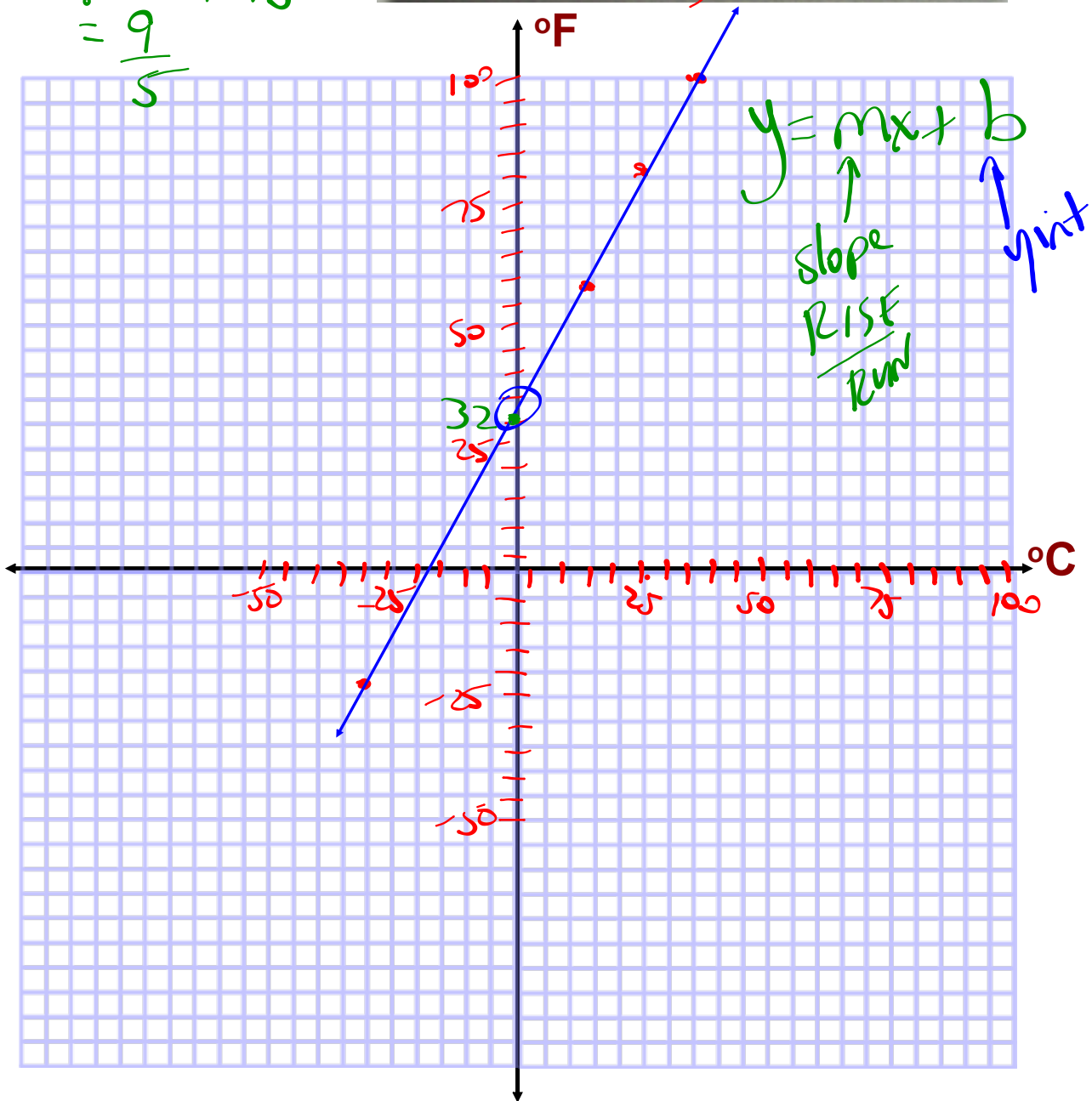
- most North Americans use cooking temperatures in Fahrenheit.
- stoves and recipes are usually in °F.
- SI system came into play in 1970's...before that was Fahrenheit only.

## Degrees in Fahrenheit versus Degrees in Celsius

ACTIVITY 5.1 p. 189

$$\begin{aligned}
 m &= \frac{y_2 - y_1}{x_2 - x_1} \\
 &= \frac{81 - 59}{27 - 15} \\
 &= \frac{9}{5}
 \end{aligned}$$

EQUIVALENCIES IN FAHRENHEIT AND CELSIUS UNITS			
Example	(x, y)	°F	°C
Bitterly cold day	(-30, -22)	-22	-30
Mild day	(15, 59)	59	15
Hot day	(27, 81)	81	27
Normal body temperature	(37, 98.6)	98.6	37
Boiling water	(100, 212)	212	100



- Can we develop an equation to model the relationship?

# Conversions

Convert from °F into °C...

$$C = \frac{5}{9}(F - 32)$$

ex:  $93^{\circ}F = \underline{\quad}^{\circ}C$

$$C = \frac{5}{9}(93 - 32)$$

Convert from °C into °F...

Let's rearrange to get the formula!

*x* SAM DEB (Rearrange)

$$\frac{9}{5}C = \frac{9}{5}(F - 32)$$

$$\frac{9}{5}C + 32 = F$$

$$F = \frac{9}{5}C + 32$$

$$y = mx + b$$

y-int = 32  
slope =  $\frac{9}{5}$

ex:  $-2^{\circ}C = \underline{28}^{\circ}F$

$$F = \frac{9}{5}(-2) + 32$$

HOMEWOK... Test tomorrow!