# Warm Up                                    12/5/18

**1. Two groups of teenagers and adults went to a basketball game last week. The first group paid $88 for 4 teens and 2 adults. The second group paid $164 for 7 teens and 4 adults. What was the cost for a teen's ticket and for an adult ticket?**

$x = $ cost for teen ticket **$12**

$y = $ cost for adult ticket **$20**

$$-7(4x + 2y = 88)$$
$$4(7x + 4y = 164)$$

$4x + 2(20) = 88$
$4x + 40 = 88$
$4x = 48$
$x = 12$

$$-28x - 14y = -616$$
$$+ \quad 28x + 16y = 656$$
$$\frac{2y}{2} = \frac{40}{2}$$
$$y = \$20$$

**2. Write the equation in slope-intercept form:**

$$-9x + 4y = -24$$
$$+9x \qquad +9x$$
$$\frac{4y}{4} = \frac{9x}{4} - \frac{24}{4}$$
$$\boxed{y = \frac{9}{4}x - 6}$$

**3. What is the equation of the line that passes through the points (-3, 6) and (4, 27)?**

① $m = \dfrac{27-6}{4+3} = \dfrac{21}{7} = 3$

② $y - y_1 = m(x - x_1)$
$y - 27 = 3(x - 4)$
$y - 27 = 3x - 12$
$\quad +27 \qquad +27$
$$\boxed{y = 3x + 15}$$