

Homework 29.1

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Simplify.

1) $\sqrt{196}$

$$\begin{array}{r} 2 \quad 98 \\ 2 \quad 49 \\ \hline 77 \\ \hline \end{array} = 2 \cdot 7 = 14$$

2) $3\sqrt{12}$

$$\begin{array}{r} 2 \quad 6 \\ 2 \quad 3 \\ \hline \end{array} 3 \cdot 2\sqrt{3} = 6\sqrt{3}$$

3) $\sqrt{20x^4}$

$$\begin{array}{r} 2 \quad 10 \\ 2 \quad 5 \\ \hline \end{array} \quad \begin{array}{c} \cancel{x \cdot x} \cdot \cancel{x \cdot x} \\ x^2 \\ 2x^2\sqrt{5} \end{array}$$

4) $\sqrt{18n}$

$$\begin{array}{r} 2 \quad 9 \\ 2 \quad 3 \\ \hline \end{array} n \quad 3\sqrt{2n}$$

5) $\sqrt{24h^4k}$

$$\begin{array}{r} 2 \quad 12 \\ 2 \quad 6 \\ \hline \end{array} \quad \begin{array}{c} h \\ \cancel{h \cdot h} \cdot \cancel{h \cdot h} \\ k \\ 2j^2\sqrt{6hk} \end{array}$$

6) $\sqrt{8x^2y^3z^3}$

$$\begin{array}{r} 2 \quad 4 \\ 2 \quad 2 \\ \hline \end{array} \quad \begin{array}{c} \cancel{x \cdot x} \\ y \cdot y \cdot y \\ z \cdot z \cdot z \\ 2xyz\sqrt{2yz} \end{array}$$

- 7) The school that Natalie goes to is selling tickets to a play. On the first day of ticket sales the school sold 6 adult tickets and 6 child tickets for a total of \$138. The school took in \$168 on the second day by selling 6 adult tickets and 9 child tickets. Find the price of an adult ticket and the price of a child ticket.

$$\begin{array}{r} -6A + 6C = 138 \\ 6A + 9C = 168 \\ \hline 3C = 30 \end{array}$$

$$\frac{3C}{3} = \frac{30}{3}$$

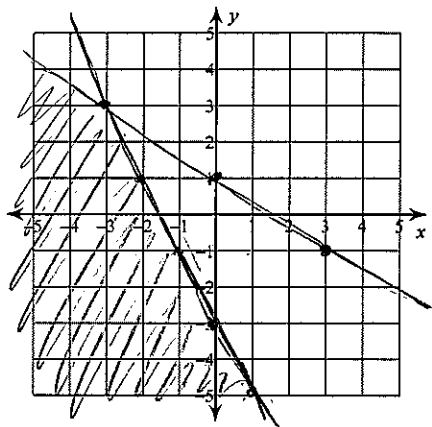
$$C = 10$$

	day 1	day 2
Adult	6	6
Child	6	9
Total	138	168

Sketch the solution to each system of inequalities.

8) $y \leq -\frac{2}{3}x + 1$ ①

$y \leq -2x - 3$ ②



① $m = -\frac{2}{3}$

$b = 1$

Solid

below

② $m = -2$

$b = -3$

Solid

below

$$6A + 6(10) = 138$$

$$6A + 60 = 138$$

$$\begin{array}{r} -60 \quad -60 \\ \hline \end{array}$$

$$\frac{6A}{6} = \frac{78}{6}$$

$$A = 13$$

Answers to Homework 29.1

1) 14

5) $2j^2\sqrt{6hk}$

2) $6\sqrt{3}$

6) $2xyz\sqrt{2yz}$

3) $2x^2\sqrt{5}$

4) $3\sqrt{2n}$

7) adult ticket: \$13, child ticket: \$10

8)

