Key

7.2 Extra Practice. Write the equivalent rate. Be sure to show a conversion factor.

1. $\frac{15\ miles}{1\ hour} = \frac{x\ feet}{1\ hour}$

$\frac{15\ \text{miles}}{1\ \text{hour}} * \frac{\text{distance } 5280\ \text{feet}}{1\ \text{mile}} = \frac{79{,}200\ \text{ft}}{1\ \text{hour}}$

2. $\frac{\$33{,}000}{1\ year} = \frac{\$x}{1\ month}$

$\frac{\$33{,}000}{1\ \text{year}} * \frac{\text{Time } 1\ \text{year}}{12\ \text{months}} = \frac{\$33{,}000}{12\ \text{months}} \Rightarrow \frac{\$2750}{1\ \text{month}}$

3. $\frac{45\ minutes}{2\ miles} = \frac{x\ hours}{1\ miles}$

$\frac{45\ \text{minutes}}{2\ \text{miles}} * \frac{\text{Time } 1\ \text{hour}}{60\ \text{mins}} = \frac{45\ \text{hours}}{120\ \text{miles}} \Rightarrow \frac{.375\ \text{hours}}{1\ \text{mile}}$

4. $\frac{\$5.60}{1\ pound} = \frac{\$x}{1\ ounce}$

$\frac{\$5.60}{1\ \text{pound}} * \frac{\text{weight } 1\ \text{pound}}{16\ \text{oz.}} = \frac{\$5.60}{16\ \text{oz}} \Rightarrow \frac{\$.35}{1\ \text{ounce}}$

5. $\frac{8.5\ kilometers}{1\ hour} = \frac{x\ meters}{1\ hour}$

$\frac{8.5\ \text{kilometers}}{1\ \text{hour}} * \frac{\text{distance } 1000\ \text{meters}}{1\ \text{km}} = \frac{8500\ \text{meters}}{1\ \text{hour}}$

6. $\frac{756\ yards}{1\ week} = \frac{x\ inches}{1\ day}$

$\frac{756\ \text{yards}}{1\ \text{week}} * \frac{\text{distance } 36\ \text{in}}{1\ \text{yd}} * \frac{\text{Time } 1\ \text{week}}{7\ \text{days}} = \frac{27{,}216\ \text{in}}{7\ \text{days}} \Rightarrow \frac{3{,}888\ \text{in}}{1\ \text{day}}$

7. $\frac{43\ miles}{1\ year} = \frac{x\ feet}{1\ month}$

$\frac{43\ \text{miles}}{1\ \text{year}} * \frac{\text{distance } 5280\ \text{ft}}{1\ \text{mile}} * \frac{\text{Time } 1\ \text{year}}{12\ \text{months}} = \frac{227{,}040\ \text{ft}}{12\ \text{months}} \Rightarrow \frac{18{,}920\ \text{ft}}{1\ \text{month}}$

8. $\frac{88\ inches}{2\ minutes} = \frac{x\ feet}{1\ hour}$

$\frac{88\ \text{inches}}{2\ \text{minutes}} * \frac{\text{distance } 1\ \text{foot}}{12\ \text{inches}} * \frac{\text{Time } 60\ \text{mins}}{1\ \text{hour}} = \frac{5280\ \text{ft}}{24\ \text{hrs}} \Rightarrow \frac{220\ \text{ft}}{1\ \text{hour}}$

9. $\frac{3\ tons}{10\ hours} = \frac{x\ pounds}{1\ day}$

$\frac{3\ \text{tons}}{10\ \text{hours}} * \frac{\text{weight } 2000\ \text{lbs.}}{1\ \text{ton}} * \frac{\text{Time } 24\ \text{hrs.}}{1\ \text{day}} = \frac{144{,}000\ \text{lbs}}{10\ \text{days}} \Rightarrow \frac{14{,}400\ \text{lbs}}{1\ \text{day}}$