Lake Inari's Reindeer Race

Finland

For at least 5,000 years, the Sami people have made a living from herding reindeer. In fact, reindeer herding is such an integral part of their culture that some other Scandinavian countries have protected it by law. The most common form of this contest places one skier behind one reindeer. These reindeer are usually males selected the previous autumn for their speed potential and competitiveness. The fastest reindeer can reach speeds of up to 35 miles per hour. The world record 12-meter reindeer sprint stands at 14.96 seconds, which requires a spectator to pay close attention so as not to miss it.

Becky, a world traveler from North Carolina, came to watch this popular race with her Finnish friend Jenni. Becky is very curious about the Inari race and has a lot of questions during the race. Help Jenni figure out the following:

1. Becky asked her friend Jenni, "*If the fastest reindeer can run at 35 miles per hour, at how many kilometers per hour can they run?*"

Conversions
1 mile = 0.621371 kilometers 1 kilometer = 1.60934 miles

One method: Using a ratio table

(Multiply by 35)

Miles	1	35
Kilometer	0.6213	21.7455

(Multiply by 35)

Another method: Conversion

$$1\ mile \cdot \frac{0.621371km}{1\ mile} = 21.747985km \sim 21.75\ km$$

2. After watching the world record being set, Becky wondered, “If the world record reindeer sprint is 12 meters in 14.96 seconds, how many mph did that reindeer go?”

Conversions
1 mile = 1609.34 meters
1 meter=0.000621371 mile
1 minute = 60 seconds
1 hour= 60 minutes or 3600 seconds

One Method: Conversion

Meters to Miles

$$\frac{12\ meters}{14.96\ seconds}\cdot\frac{0.00621371 miles}{1\ meter}=\frac{0.07456452\ miles}{14.96\ seconds}$$

Seconds to Hours

$$\frac{0.07456452\ miles}{14.96\ seconds}\cdot\frac{60\ seconds}{1\ minute}\cdot\frac{60\ minutes}{1\ hour}$$
$$=\frac{268.432272\ miles}{14.96\ seconds}=17.943\ mph$$

3. The race finished and then Becky asked Jenny, “*If the prize money totals $12,000, and the winning reindeer/jockey team receives 80 percent of that, how much money will the team win?”*

Method #1 (Divide by 2) (Divide by 2) (Divide by 2) (Add up money that totals 80%)

Money ($)	$12,000	$6,000	$3,000	$600	Answers vary	$6,000+ $3,000+$600=$9,600
Percent (%)	100%	50%	25%	5%	Answers vary	50%+25%+5%=80%

(Divide by 2) (Divide by 2) (Divide by 2) (Add up percentage that totals 80%)

Method #2 (Divide by 2) (Divide by 2) (Divide by 2) (Multiply by 16 to $600 to get $9,600)

Money ($)	$12,000	$6,000	$3,000	$600	Answers vary	($600)16=$9,600
Percent (%)	100%	50%	25%	5%	Answers vary	(5%)16=80%

(Divide by 2) (Divide by 2) (Divide by 2) (Multiply by 16 to 5% to get 80%)

Method #3

$$\$12{,}000\cdot 80\% = \$12{,}000\cdot\frac{80}{100} = \$12{,}000\cdot 0.80 = \$9{,}600$$