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2-8 NOTES (continued)

Dimensional Analysis

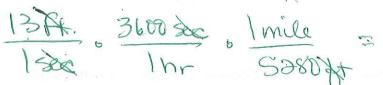
Use dimensional analysis to convert each rate. Show all of your work and draw a line through the units that cancel.

RUNNING A 10K run is 10 kilometers long. If 1 meter = 1.094 yards, use dimensional analysis to find the length of the race in miles. (Hint: 1 mi = 1760 yd)

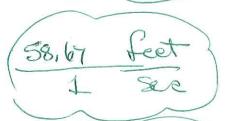
length of run	×	kilometers × to meters		meters to yards	×	yards to miles	
10 Rm	Ø	1000 meles	v	1.094 yds)	· 1 mile	16.2 miles
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Exercises

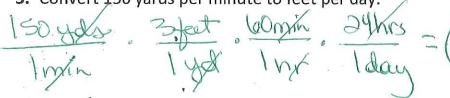
1. Convert 13 feet per second to miles per hour.

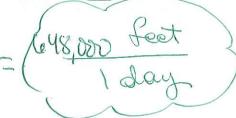


2. Convert 40 miles per hour to feet per second.



3. Convert 150 yards per minute to feet per day.





A car travels a distance of 100 feet in about 2.8 seconds. What is the velocity of the car in miles per hour? Round to the nearest whole number.

NAME	DATE	PERIOD

5. A person is walking at a rate of 160 feet per minute. Use dimensional analysis to find the speed at feet per second.

160 St. 1 min = 2.67 ft

6. Convert 3.82 meters per second to kilometers per hour.

3.82m, 1km, 60%, 60mm, = 13,752 km 1 se 1000m, 1min 1hr

7. Convert 15 miles per hour to inches per second.

15 miles lar learn 5280/ 12 = 264 inches

8. Falcons can dive at speeds of up to 318 feet per second. Convert this speed to miles per

1500 - 1 mile 6000 6000 1 1 hr. 1 hr.

9. A cyclist travels 56 miles in 4 hours. What is the cyclist's speed in feet per minute?

56 miles Mr. 5280ft = 1232 feet 4 brs 60 min 1 mide