

Units & Unit Conversion

1. Write the correct abbreviation for each metric unit.

- | | | |
|--------------------|---------------------|---------------------|
| a. Kilometer _____ | d. Milliliter _____ | g. Kilometer _____ |
| b. Meter _____ | e. Millimeter _____ | h. Centimeter _____ |
| c. Gram _____ | f. Liter _____ | i. Decimeter _____ |

2. Write the base unit used for each measurement.

- a. Length _____ b. Time _____ c. Mass _____

3. Convert each of these measurements into their base units.

- a. 2000 mg = _____ c. 67 g = _____ e. 5.3 hm = _____ g. 12 minutes = _____
- b. 108 km = _____ d. 8240 dm = _____ f. 4 hours = _____ h. 0.2 minutes = _____

4. Convert your age in years to hours and then minutes.

5. Practice converting to the units given.

- | | | |
|----------------------|----------------------|-------------------------|
| a. 2000 mg = _____ g | f. 5 hours = _____ s | k. 16 cm = _____ mm |
| b. 1.48 km = _____ m | g. 198 g = _____ kg | l. 2956 s = _____ hours |

c. $480 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$ h. $75 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$ m. $65 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$

d. $5.6 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$ i. $50 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$ n. $6.3 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

e. $8 \text{ mm} = \underline{\hspace{2cm}} \text{ cm}$ j. $0.6 \text{ min} = \underline{\hspace{2cm}} \text{ s}$ o. $120 \text{ mg} = \underline{\hspace{2cm}} \text{ g}$

6. Write the correct derived units for each measurement.

a. Speed $\underline{\hspace{2cm}}$ c. Area $\underline{\hspace{2cm}}$ d. Volume $\underline{\hspace{2cm}}$ e. Density $\underline{\hspace{2cm}}$

7. Convert the derived units given.

a. $5.04 \text{ km/hr} = \underline{\hspace{2cm}} \text{ m/s}$ f. $10 \text{ hm}^2 = \underline{\hspace{2cm}} \text{ m}^2$

b. $8200 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ m}^2$ g. $2 \text{ km/s} = \underline{\hspace{2cm}} \text{ m/s}$

c. $5.64 \text{ m/s} = \underline{\hspace{2cm}} \text{ km/hr}$ h. $10 \text{ m/s} = \underline{\hspace{2cm}} \text{ km/hr}$

d. $3800 \text{ mm}^3 = \underline{\hspace{2cm}} \text{ cm}^3$ i. $6 \text{ km}^3 = \underline{\hspace{2cm}} \text{ m}^3$

e. $250 \text{ mm/s} = \underline{\hspace{2cm}} \text{ km/hr}$ j. $130 \text{ km/hr} = \underline{\hspace{2cm}} \text{ m/s}$

Science 1206

Worksheet 2: *Working with Significant Digits* **Name : _____**

1. How many significant digits are there in the following numbers ?

- | | |
|---------------------------|-------------------------|
| a. 123 m _____ | b. 0.123 m _____ |
| c. 4.5600 kg _____ | d. 0.078 g _____ |
| e. 4005 cm _____ | f. 0.04103 L _____ |
| g. 1.000020 ml _____ | h. 50020 kg _____ |
| i. 5005.0 L _____ | j. 375.10 km _____ |

2. Write the following in scientific notation.

- | | |
|-----------------------|--|
| a. 30000 _____ | |
| b. 0.00235 _____ | |
| c. 0.4 _____ | |
| d. 3007000 _____ | |

3. Round off these numbers to the number of significant digits shown :

- | | |
|----------------------------|-----------------------------|
| a. 314.721m (4) _____ | b. 0.0175m (1) _____ |
| c. 6462 m (2) _____ | d. 0.01002 m (2) _____ |
| e. 237.5m (3) _____ | f. 537600m (2) _____ |

4. Add the following numbers, and round off the answer to the correct number of significant digits.

- | | |
|---|-------|
| a. 3.27m + 6.2 m + 3.2734 m | _____ |
| b. 527g + 623.2g + 537.31g | _____ |
| c. 364.51 kg + 897.78234 kg | _____ |
| d. 678.3 s - 7265 s - 234.34 s | _____ |
| e. - 789.1m/s + 345.98 m/s - 16725.67 m/s | _____ |

5. Multiply the following numbers and round off the answers to the correct number of significant digits.

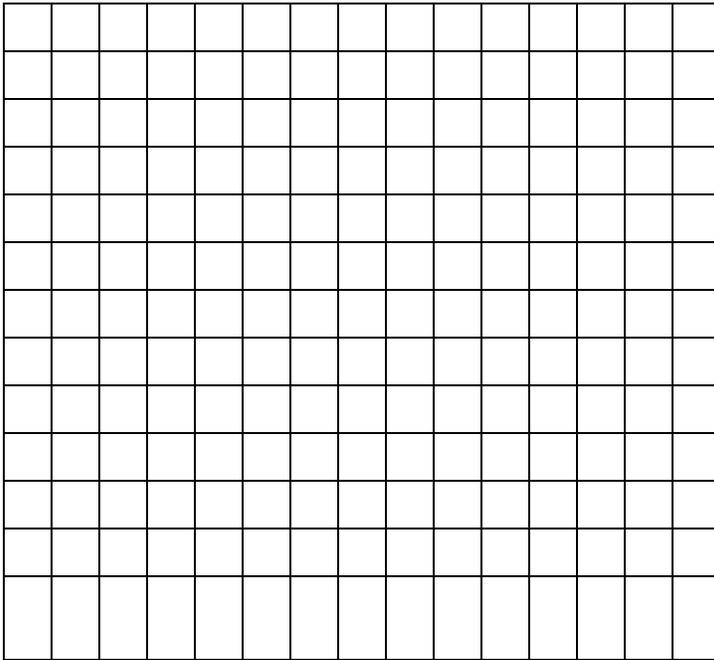
a. 738×18.43

b. 0.5900×4004

c. 57.002×4300

d. 653.0×23.9

e. 8937465×239.07



63276929. The cheetah is the fastest land animal and can accelerate rapidly in an attack. The table below shows some typical speeds for a cheetah.

Acceleration of a Cheetah

Time (s)	Speed (m/s)
0.0	0.0
0.5	5.0
1.0	10.0
1.5	15.0
2.0	20.0

A) Draw a speed-time graph for this data.

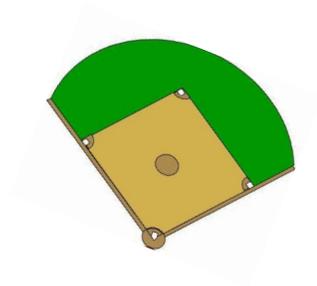
B) Using your graph, calculate the average acceleration of the cheetah.

C) Using your graph calculate the total distance travelled by the cheetah by the end of 2.0s.

Science 1206 Worksheet 4: Distance and Displacement

Determine the distance and the displacement of the following.

1. Tina heads out for a run. She runs 800 meters north, turns around, and runs 500 meters south.
2. Miley Cyrus is preparing for a concert. She is practicing sticking her tongue out when she notices that her water bottle is missing. She instantly goes on a rampage yelling at her assistant Claudia. Claudia runs 204 meters to the left of the stage to grab the water bottle. She then runs 189 meters right to bring it to the screaming celebrity.
3. Tony is participating in a treasure hunt. The map tells Tony to travel 65m north, then 26 m south, then 42 m north and finally 57 m south.
4. An all-star baseball player hits a homerun. He has to run all the bases and make it home for the runs to count. Each plate is 40 m apart.



5. A blue jay is looking for supplies to build his nest. He travels 20 km north, 58 km south and finally 14 km north until he finds all he needs.

6. A motorcycle travels 200.0km[N] and then 350.0km[S] in 3.0h. Calculate the following:

a) distance the motorcycle travelled

b) displacement of the motorcycle

7. George of the Jungle swings 125km[W] and then 275km[E] in 12h. Calculate the following:

a) distance

b) displacement