Canceling Units

Name: _____ Period: _____ Date: _____

1) What are the correct units for the answer to a problem if the following series of conversion factors are used?

$quark^4$	passel	goober	parsec	speck
$goober^2$	speck	passel	$quark^3$	passel

2) Given the following equivalents, convert 7 fizzle to frizzles.

   3 swizzles = 7 twizzles

   1 fizzle = 2 drizzles

   3 twizzles = 14 sizzles

   1 swizzle = 22 frizzles

   8 drizzles = 5 sizzles

3) Evaluate the following:

miles	yards	$meters^2$	km^2	pounds	miles
yards	km	$meters^2$	$miles^2$	pounds	meters

4) Evaluate the following:

$$(\frac{m \cdot kg}{s^2})(\frac{s^2}{kg \cdot m^2})$$

5) Evaluate the following:

$$(\frac{m^2 \cdot kg}{s^3})(\frac{s^2}{kg \cdot m^2})$$

6) Represent each fundamental SI unit using the derived quantities. (Note: individual derived quantities may be used more than once, ie N*N would be N^2)

   a. Length

   b. Mass

   c. Time

Units Derived

Derived quantities with special names that are used in Physics

Derived Quantity	**Name**	**Symbol**	**In terms of derived & fundamental units**	**In terms of fundamental units**
Force	Newton	N	-	$\frac{m \cdot kg}{s^2}$
Energy & Work	Joule	J	N•m	$\frac{m^2 \cdot kg}{s^2}$
Power	Watt	W	$\frac{J}{s}$	$\frac{m^2 \cdot kg}{s^3}$
Frequency	Hertz	Hz	-	$\frac{1}{s}$