Name		Period	
Int2Acc	Homework 1-8 Literal Equations	Unit 1	

A mad scientist has discovered a formula to bring people back to life. He finds that if he knows how old the person was when they died (A, in years), how tall they were (T, in inches), and how much they weighed (W, in pounds), he can determine the amount of electricity (E, in joules) required to bring them back.

The formula is:

$$\frac{A \bullet W}{T} = E$$

After completing 10 successful experiments, the scientist realizes his assistant is a very poor note taker. For each experiment the assistant forgot to fill in one of the variables in their records. Find the missing variable for each experiment.

Age (A)	Weight (W)	Height (T)	Electricity (E)
41	170	74	
28		76	75.5
42	166		102.5
32		70	71
	167	72	90.5
30	124	66	
33	115		57.5
26		64	49
30	158		66.8
	175	72	128.8

The scientist doesn't want to have to solve for each variable every single time, so he solves the original equation in order to find equations that solve for A, T, and W. What are those equations?

 $\frac{A \bullet W}{T} = E$ 

- 1. A=
- 2. T=
- 3. W=

## **Literal Equation Practice**

Solve for the indicated variable in each question.

4. 2x - 8y = 32, solve for y

5. -15x - 3y = 9, solve for y

6. a = b + c, solve for c.

7. h = j + kl, solve for k

10. 
$$\boldsymbol{g} = \boldsymbol{a} - \boldsymbol{c} + \boldsymbol{b}$$
, solve for  $\boldsymbol{a}$ 

11. ac = r + d, solve for a

#12-15: Use the following formula and solve for the indicated variable.

$$k = r + xyz$$

12. Solve for *r*.

13. Solve for *x*.

14. Solve for *y*.

15. Solve for *z*.

- #16-18: Use the values given to calculate the indicated variable. 16. If r = 5, x = 3, y = 1, and z = 6. what is k?
  - 17. If k = 20, r = 2, x = 2, and z = 3. what is y?

18. If k = 30, r = 24, y = 3, and z = 4. what is x?

#19-20: Put into slope-intercept form. (Solve for y.) 19. 5x - 15y = 60

20. 
$$-3x + 2y = -12$$

#21-24: Solve for the indicated variable.

21. b = r - w, for *w*.

23. 
$$t = g + kp$$
, for *p*.

22. 
$$h = \frac{c}{y}$$
, for y.

24. 
$$s = h + y - z$$
, for z.