1. Let p denote the price of the Schroeter text, n the number of copies of the text that were sold in 2002, and c the cost of producing one book. Assume p, n, and c are all positive numbers. If the relationship between n, c, and p is given by $n = c - 2p$, then **a)** the relationship is non-linear, **b)** as p rises, n *has* to fall, **c)** ♣the relationship may be equivalently restated as $p = \frac{c-n}{2}$, **d)** the relationship may be equivalently restated as $-np = c - 2$.

2. Suppose $y = 2x - 1$. If you plot y on the vertical axis and x on the horizontal axis, then **a)** the point $(0, 0)$ is on the plotted graph, **b)** the point $(4, 7)$ is on the plotted graph, **c)** the plot is a straight line, **d)** ♣both b and c are true

3. The slope of the line $c + 3m = 25$ (with c on the vertical axis and m on the horizontal axis) is (**a**) +5 for positive values of m, (**b**)♣ -3 for all values of m, (**c**) -5 for some values of c, (**d**) 25/3 for all values of c

4. Consider the equation

$$C_1 + \frac{C_2}{1+r} = Y_1 + \frac{Y_2}{1+r} \tag{1}$$

where Y_1, Y_2, and r are positive constants. With respect to equation (1): When $C_1 = 0$, then C_2 is given by (**a**) $Y_1 + \frac{Y_2}{1+r}$, (**b**) $-(Y_1 + \frac{Y_2}{(1+r)^2})$, (**c**)♣ $Y_1(1+r) + Y_2$, (**d**) none of the above

5. With respect to equation (1): If you plot C_1 on the horizontal axis, and C_2 on the vertical axis, the slope of the line will be (a) $1 + r$, (b) $-\frac{1}{1+r}$, (c) $-Y_1$, (d)♣ none of the above.

6. With respect to equation (1): If you plot C_1 on the horizontal axis, and C_2 on the vertical axis, the horizontal intercept will be (a) $1 + r$, (b) $Y_1(1 + r) + Y_2$, (c) ♣$Y_1 + \frac{Y_2}{1+r}$, (d) $\frac{Y_2}{1+r}$

7. With respect to equation (1): if Y_1 is raised to $Y_1 + \Delta$, then the slope of the line (a) changes to $\frac{Y_2+\Delta}{1+r}$, (b)♣ does not change (c) changes to $-(1 + r(\Delta))$, (d) changes to $-(1 + r)/\Delta$

8. With respect to equation (1): if Y_2 is raised to $Y_2 + \Delta$, then the line (a)♣ shifts outwards (b) stays the same (c) shifts inwards (d) may swivel and become steeper if Y_1 is held constant

9. Suppose $y = \frac{1}{2w} + 5$ and $y > 0$ and $w > 0$. Then **a)** the relationship between y and w is linear, **b)** ♣as w rises, y has to fall, **c)** if you plot y against w, the graph will have slope equal to 2 always, and **d)** none of the above

10. Suppose $2k^{\frac{1}{\alpha}} = 50$, then $k^2 =$ **a)**♣ $25^{2\alpha}$, **b)** $25^{\frac{1}{\alpha}}$, **c)** $(25)^{\alpha^2}$, **d)** 25^{α}

11. Consider the function F

$$Y = F(K, L) = AK^{\frac{1}{3}}L^{\frac{2}{3}}.$$

Assume K, A, L are all positive. If K increases to $2K$, L increases to $2L$, and A increases to $2A$, then Y, (**a**) goes up by $2A$, (**b**) increases by an amount which cannot be computed, (**c**) doubles, (**d**)♣ quadruples.

12. The slope of the function $y = Ax^{\beta}$ at the point $x = 2$ [note: A and β are constants and x and y are the variables] is **a)** $A\beta$, **b)** $2A\beta$, **c)**♣ $\frac{\beta A}{2^{1-\beta}}$, **d)** none of the above

13. The slope of the function $y = Ax^\beta$ **a)** changes as A changes, **b)** changes as β changes, **c)** changes as x changes, **d)**♣ all of the above

14. Consider the straight line described by $y = 2x - M$ where y and x are the two variables (x and y are positive numbers) and M is a positive constant. As M increases, **a)** the slope of the line falls, **b)**♣ the line shifts away from the origin, **c)** the line shifts towards the origin, **d)** both a and c are true

15. Suppose

$$c_2^* = (1+r)\frac{(1-\alpha)}{\alpha}c_1^*$$

and

$$c_1^* + \frac{c_2^*}{1+r} = y_1 + \frac{y_2}{1+r}$$

where y_1, y_2, r, α are all positive constants. Then (a)♣ $\begin{array}{c} c_1^* = \alpha\left[y_1 + \frac{y_2}{1+r}\right] \\ c_2^* = (1-\alpha)(1+r)\left[y_1 + \frac{y_2}{1+r}\right] \end{array}$, b) $\begin{array}{c} c_1^* = \left[y_1 + \frac{y_2}{1+r}\right]/\alpha \\ c_2^* = (1-\alpha)\left[y_1 + \frac{y_2}{1+r}\right] \end{array}$, (c) $\begin{array}{c} c_1^* = \alpha\left[y_1 + \frac{y_2}{1+r}\right] \\ c_2^* = \frac{(1-\alpha)}{2}(1+r)\left[y_1 - \frac{y_2}{1+r}\right] \end{array}$, (d) $\begin{array}{c} c_1^* = \alpha y_1 \\ c_2^* = (1+r)\left[y_1 + \frac{y_2}{1+r}\right] \end{array}$