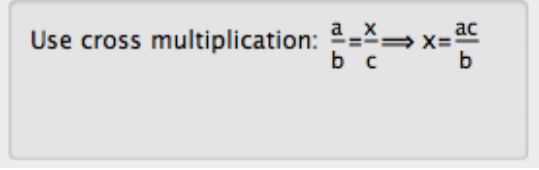


Unit 1: Algebra Hints

1-1 a) Collect like terms.
Variable on one side = Number on the other side

b) Expand and collect like terms.
Variable on one side = Number on the other side

c)



Use cross multiplication: $\frac{a}{b} = \frac{x}{c} \Rightarrow x = \frac{ac}{b}$

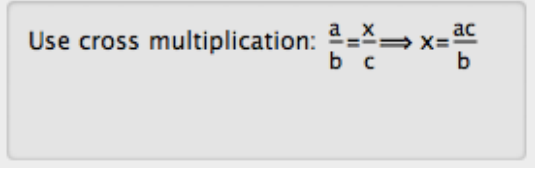
d, e, f)

Solve by:

- 1) Method of Substitution
- 2) Method of Elimination or
- 3) Alternative Method of Elimination.

1-2 a, b) Identify which variables are given and which is the unknown.

1-3 Identify which variables are given and which is the unknown.



Use cross multiplication: $\frac{a}{b} = \frac{x}{c} \Rightarrow x = \frac{ac}{b}$

1-4 Think Systems of Equations.

Solve by:

- Method of Substitution
Method of Elimination or
Alternative Method of Elimination.

1-5 Think "Unit cost, number of items and total revenue" table.

Method 1

Set up systems of equations

Solve by:

- 1) Method of Substitution
- 2) Method of Elimination or
- 3) Alternative Method of Elimination.

Method 2

Set up one variable algebraic equation

Solve by:

Expand and collect like terms.

Variable on one side = Number on the other side

Unit 2: Linear Coordinate Geometry Hints

2-1

- a) Equation of line: $y = mx + b$
Solve for m and b .

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

To find b , sub m and a point (x,y) into $y = mx + b$

- b) Express slope as a “rate”
- c) Identify which variable is given. Solve for the unknown.
- d) Think in terms of “fixed cost”
- e) Set up systems of equations.
Solve by:
1) Method of Substitution
2) Method of Elimination or
3) Alternative Method of Elimination

Unit 3: Percents Hints

3-1, 3-2a), 3-3b)

Percent increase/decrease question

Let F be the final amount

Let P be the original/initial amount

$\% \uparrow$ means percent increase

$\% \downarrow$ means percent decrease

Solve by

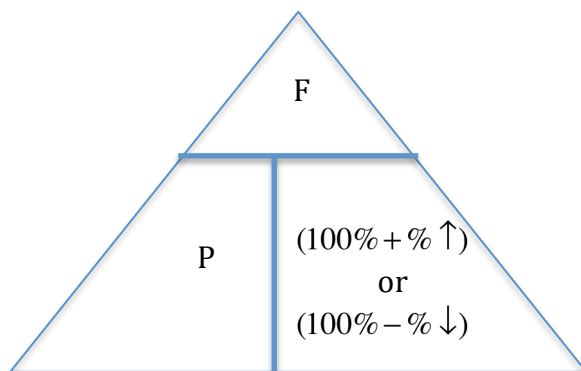
Method 1: $F = P + P(\% \uparrow)$ Percent increase

$$F = P - P(\% \downarrow) \quad \text{Percent decrease}$$

Method 2: $F = P(100\% + \% \uparrow)$ Percent increase

$$F = P(100\% - \% \downarrow) \quad \text{Percent decrease}$$

Method 3: Triangle Method



3-2b)

Method 1

Set up systems of equations

Solve by:

- 1) Method of Substitution
- 2) Method of Elimination or
- 3) Alternative Method of Elimination.

Method 2

Set up one variable algebraic equation

Solve by:

Expand and collect like terms.

Variable on one side = Number on the other side

3-3a) $\% \uparrow \text{ or } \% \downarrow = \frac{\text{final} - \text{original}}{\text{original}} \times 100$

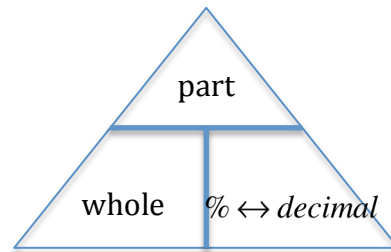
3-3c) Regular percent questions

Method 1: By definition of percents

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

Use cross multiplication: $\frac{a}{b} = \frac{x}{c} \implies x = \frac{ac}{b}$

Method 2: Triangle method



Unit 4: Ratio Hints

4-1.

Use cross multiplication: $\frac{a}{b} = \frac{x}{c} \implies x = \frac{ac}{b}$

4-2. Set up a table. Use the concept of

<u>Ratio</u>	<u>Actual</u>
a:b	ax:bx

Use cross multiplication: $\frac{a}{b} = \frac{x}{c} \implies x = \frac{ac}{b}$

4-3., 4-4

Set up a table. Use the concept of

<u>Ratio</u>	<u>Actual</u>
a:b	ax:bx

4-5

Set up the unit price number of item and revenue table

<u>Ratio</u>	<u>Actual</u>
a:b	ax:bx

Unit 5: Financial Math

For all financial math questions:

A = final amount/future value

P = Present value

r = interest rate (as a decimal)

n = time

5-1a) i) $A = P(1 + rn)$

ii) $A = P(1 + r)^n$

iii) $A = P\left(1 + \frac{r}{4}\right)^{4n}$

5-1 b) $A = P(1 + r)^n$

$$n = \frac{\log(\text{number})}{\log(\text{base})}$$

5-2) $A = P(1 + r)^n$

5-3) $A = P\left(1 + \frac{r}{365}\right)^{365n}$

5-4) $A = P(1 + rn)$

Unit 6 Probability Hints

$$6-1a) P(\text{an event } A \text{ happening}) = \frac{n(\text{event } A \text{ happening})}{n(\text{total possibilities with no restrictions})}$$

6-1b) "And" means multiply in probability

6-1c) "Or" means add in probability

6-2

A:

The first and the third clues are standalone clues.

The second clue has something to do with the first clue given.

B:

$$P(\text{an event happening}) = \frac{n(\text{event})}{n(\text{all possibilities with no restrictions})}$$

C:

Think "Conditional Probability"

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$