Rearranging Formulae – Code Breaking **Answers**

As a famous archaeologist's less well-known brother, Colorado Jones, you are trying to break into a series of ancient tombs. To disarm the traps, you need to use the clues below to decode each ancient rune.

For example, if a tomb has the code: $\text{Þ} = \frac{\text{ϑ}}{\text{Ϻ}}$, you must rearrange this to give the three codes below:

$\text{Þ} = \frac{\text{ϑ}}{\text{Ϻ}}$

$\text{ϑ} = \text{ÞϺ}$ (multiply both sides by Ϻ)

$\text{Ϻ} = \frac{\text{ϑ}}{\text{Þ}}$ (multiply both sides by M, then divide both sides by Þ)

Tomb 1:

$$\text{Ϻ} = \text{ϗΘ}$$

$$\text{Ϻ} = \textbf{ϗΘ}$$

$$\text{ϗ} = \frac{\textbf{Ϻ}}{\textbf{Θ}}$$

$$\Theta = \frac{\textbf{Ϻ}}{\textbf{ϗ}}$$

Tomb 2:

$$\text{ϗ} = \frac{\text{Ϻ} + \Theta}{\text{ϑ}}$$

$$\text{ϗ} = \frac{\textbf{Ϻ} + \textbf{Θ}}{\textbf{ϑ}}$$

$$\text{Ϻ} = \textbf{ϗϑ} - \textbf{Θ}$$

$$\Theta = \textbf{ϗϑ} - \textbf{Ϻ}$$

$$\text{ϑ} = \frac{\textbf{Ϻ} + \textbf{Θ}}{\textbf{ϗ}}$$

Tomb 3:

$$\text{ϑ} = \text{ϺÞ} + \Theta$$

$$\text{ϑ} = \textbf{ϺÞ} + \textbf{Θ}$$

$$\text{Ϻ} = \frac{\textbf{ϑ} - \textbf{Θ}}{\textbf{Þ}}$$

$$\text{Þ} = \frac{\textbf{ϑ} - \textbf{Θ}}{\textbf{Ϻ}}$$

$$\Theta = \textbf{ϑ} - \textbf{ϺÞ}$$

Tomb 4:

$$\text{ϺΘ} = \text{ϗ}^2 - \text{ϞÞ}$$

$$\text{Ϻ} = \frac{\textbf{ϗ}^2 - \textbf{ϞÞ}}{\textbf{Θ}}$$

$$\text{ϗ} = \sqrt{\textbf{ϺΘ} + \textbf{ϞÞ}}$$

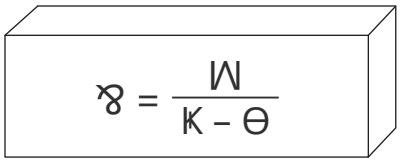
$$\text{Ϟ} = \frac{\textbf{ϗ}^2 - \textbf{ϺΘ}}{\textbf{Þ}}$$

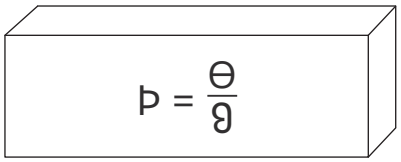
$$\Theta = \frac{\textbf{ϗ}^2 - \textbf{ϞÞ}}{\textbf{Ϻ}}$$

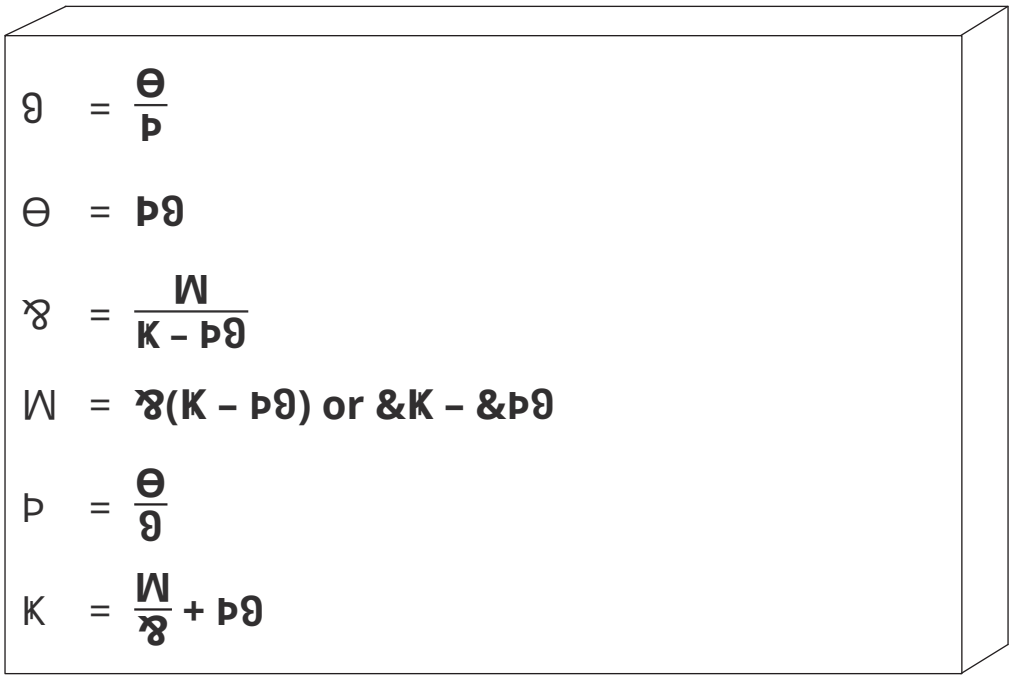
$$\text{Þ} = \frac{\textbf{ϗ}^2 - \textbf{ϺΘ}}{\textbf{Ϟ}}$$

Tomb 5:

The final tomb. You must use the **Þ** rune in each decoding.







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For example, if a tomb has the code: $Þ = \frac{ϑ}{M}$, you must rearrange this to give the three codes below:

$Þ = \frac{ϑ}{M}$

$ϑ = ÞM$ (multiply both sides by M)

$M = \frac{ϑ}{Þ}$ (multiply both sides by M, then divide both sides by Þ)

Tomb 1:

$$M = ĸΘ$$

M = _____

$ĸ$ = _____

$Θ$ = _____

Tomb 2:

$$ĸ = \frac{M + Θ}{ϑ}$$

$ĸ$ = _____

M = _____

$Θ$ = _____

$ϑ$ = _____

Tomb 3:

$$ϑ = MÞ + Θ$$

$ϑ$ = _____

M = _____

$Þ$ = _____

$Θ$ = _____

Tomb 4:

$$MΘ = ĸ^2 - ϗÞ$$

M = _____

$ĸ$ = _____

$ϗ$ = _____

$Θ$ = _____

$Þ$ = _____

Tomb 5:

The final tomb. You must use the **Þ** rune in each decoding.