

# Greek Decoder

TO DECODE THE MESSAGE AT THE BOTTOM OF THE PAGE:

Figure out the length of the missing side of any right triangle below. Find your answer in the answer column and notice the GREEK LETTER next to it. Each time this GREEK LETTER appears in the code, write the letter of that exercise above it.

*KEEP WORKING AND YOU WILL DECODE THE SECRET MESSAGE.*

- (S)  $a = 7, b = \underline{\hspace{1cm}}, c = 12$
- (O)  $a = 5, b = \underline{\hspace{1cm}}, c = 14$
- (H)  $a = 8, b = \underline{\hspace{1cm}}, c = \sqrt{164}$
- (I)  $a = 4, b = 11, c = \underline{\hspace{1cm}}$
- (E)  $a = 12, b = 5, c = \underline{\hspace{1cm}}$
- (L)  $a = \underline{\hspace{1cm}}, b = 7, c = 10$
- (F)  $a = \underline{\hspace{1cm}}, b = \sqrt{48}, c = 13$
- (K)  $a = \underline{\hspace{1cm}}, b = 12, c = 15$
- (U)  $a = 10, b = \underline{\hspace{1cm}}, c = 16$
- (W)  $a = 1, b = \underline{\hspace{1cm}}, c = 2$
- (M)  $a = 1, b = 1, c = \underline{\hspace{1cm}}$
- (T)  $a = 0.8, b = 0.6, c = \underline{\hspace{1cm}}$
- (N)  $a = \underline{\hspace{1cm}}, b = 1.5, c = 2.5$
- (Y)  $a = \underline{\hspace{1cm}}, b = 11, c = 17$
- (A)  $a = \underline{\hspace{1cm}}, b = 24, c = 25$
- (P)  $a = \sqrt{75}, b = \underline{\hspace{1cm}}, c = 15$
- (R)  $a = \sqrt{87}, b = \sqrt{57}, c = \underline{\hspace{1cm}}$
- (G)  $a = \underline{\hspace{1cm}}, b = 3, c = 5$



## ANSWERS

$\delta$	$\sqrt{156} \doteq 12.5$
$\alpha$	$\sqrt{3} \doteq 1.73$
$\zeta$	$\sqrt{144} = 12$
$\theta$	$\sqrt{137} \doteq 11.7$
$\phi$	$\sqrt{1} = 1$
$\pi$	$\sqrt{171} \doteq 13.1$
$\sigma$	$\sqrt{49} = 7$
$\nu$	$\sqrt{51} \doteq 7.14$
$\varsigma$	$\sqrt{16} = 4$
$\eta$	$\sqrt{95} \doteq 9.74$
$\epsilon$	$\sqrt{168} \doteq 13.0$
$\lambda$	$\sqrt{81} = 9$
$\tau$	$\sqrt{169} = 13$
$\xi$	$\sqrt{150} \doteq 12.2$
$\kappa$	$\sqrt{100} = 10$
$\mu$	$\sqrt{121} = 11$
$\beta$	$\sqrt{2} \doteq 1.41$
$\rho$	$\sqrt{4} = 2$

## SECRET MESSAGE

ξ ε φ κ σ s π ζ σ η α σ η σ μ σ β π δ η s ζ τ τ λ  
 ↓  
 α κ π λ ρ τ α σ ν ν φ κ τ ζ θ s κ φ σ ρ s ν τ η ↓

## How Many Cattle Are There On The Lazy Circle Double-O Bar Four Square Ranch?

Simplify any expression below and find your answer in the corresponding answer column. Write the letter of the exercise in the box that contains the number of the answer. Keep working and you will discover the answer to the title question.

(T)  $7(2m + 6) + 8m$

(A)  $3(1 + 4m) + 5m$

(E)  $6m + 7(7m + 9)$

(H)  $4 + 6(3m + 2)$

(D)  $9 + 9(5 + 4m)$

(I)  $2 + (6m + 3)7$

(U)  $(4m + 3)9 + 6m$

(25)  $36m + 54$

(14)  $42m + 23$

(23)  $17m + 3$

(7)  $18m + 16$

(18)  $22m + 42$

(11)  $42m + 27$

(2)  $55m + 63$

(H)  $3 + 5(5t + 1) + 8t$

(E)  $6t + 3(2 + 9t) + 7$

(T)  $4t + 9 + (2t + 7)6$

(N)  $8t + (7 + 3t)4 + 2t$

(F)  $7(t + 9) + 5 + t$

(B)  $9 + 5(t + 1) + 4t$

(R)  $t + 3 + 8(5 + t)$

(6)  $16t + 51$

(12)  $9t + 43$

(8)  $33t + 13$

(21)  $9t + 14$

(19)  $33t + 8$

(1)  $8t + 68$

(27)  $22t + 28$

(F)  $3(x + 6) + 8x$

(G)  $5(x + 5) + 9$

(D)  $7(2 + x) + 6x$

(E)  $x + 5(5x + 1)$

(V)  $4 + (8x + 9)2$

(I)  $x + (4 + 3x)7$

(O)  $5(8 + x) + 9$

(17)  $13x + 14$

(5)  $11x + 18$

(15)  $16x + 22$

(4)  $5x + 49$

(28)  $5x + 34$

(20)  $26x + 5$

(26)  $22x + 28$

(E)  $5(9k + 2) + 8(3 + 4k)$

(M)  $(3k + 4)6 + 7(k + 6)$

(N)  $9(7 + k) + (6k + 3)2$

(R)  $(9k + 1)6 + (4 + 2k)9$

(W)  $7(7 + 8k) + 3(k + 5)$

(V)  $4(2 + 4k) + (7k + 1)8$

(S)  $4(2k + 6) + 8(3 + 3k)$

(3)  $59k + 64$

(24)  $21k + 69$

(10)  $32k + 48$

(22)  $72k + 42$

(13)  $72k + 16$

(16)  $77k + 34$

(9)  $25k + 66$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
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# Why Was the Mail Pale?



Solve each equation or problem and find your answer at the bottom of the page. Write the letter of the exercise in the box containing its solution.

**E**  $5x + 2x - 9 = 40$

**T**  $y - 4y + 3 = -30$

**C**  $6t + 2 + 3t + 17 = 10$

**A**  $3a - 7a + 12 = 32$

**L**  $-5u + 4 + 8u = 43$

**N**  $-k - 6 - 7k + 20 = -2$

**U**  $\frac{5}{3}x - \frac{4}{3}x - 1 = 8$

**I**  $-\frac{3}{5}b + 7 + \frac{2}{5}b = 19$

**T**  $16 - 2n - 5 + 8n = 65$

**E**  $4p - 13p - p = -150$

**A**  $35 + \frac{5}{2}y - \frac{1}{2}y = 3$

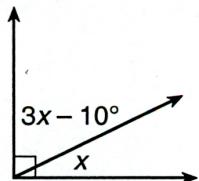
**W**  $\frac{1}{8}d - 4 + \frac{3}{8}d - 4 = 5$

**T**  $\frac{5}{7}m - 2 - \frac{6}{7}m = -13$

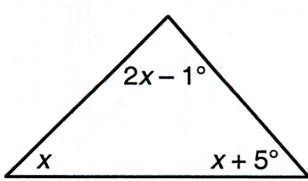
**L**  $v - \frac{9}{10}v + 6 = 11$

**S**  $70 - q - q - 2q = 80$

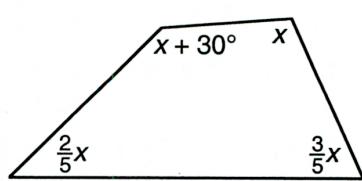
- B** The sum of the measures of two complementary angles is  $90^\circ$ . Find the measure of the angle labeled  $x$ .



- K** The sum of the measures of the three angles of a triangle is  $180^\circ$ . Find the measure of the angle labeled  $x$ .



- W** The sum of the measures of the four angles of a quadrilateral is  $360^\circ$ . Find the measure of the angle labeled  $x$ .



-60	11	-8	26	-5	-2.5	2	9	$36^\circ$	-16	31	$110^\circ$	7	50	13	$95^\circ$	$25^\circ$	27	-1	$44^\circ$	15	77
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