

What Is It Like to Live Under a Carpet?

Evaluate each formula below for the given values of the variables. Find each answer at the bottom of the page and cross out the letters above it. When you finish, the answer to the title question will remain.

① $d = rt$ where d is the distance traveled by an object moving at speed r in time t . Find d if
 $r = 52$ m/sec, $t = 8$ sec. _____ m

② $V = \ell wh$ where V is the volume of a rectangular solid with length ℓ , width w , and height h . Find V if
 $\ell = 12$ cm, $w = 5$ cm, $h = 3.5$ cm. _____ cm³

③ $P = 2\ell + 2w$ where P is the perimeter of a rectangle with length ℓ and width w . Find P if
 $\ell = 16$ km, $w = 7.5$ km. _____ km

④ $d = \frac{1}{2}n(n - 3)$ where d is the number of diagonals of a polygon with n sides. Find d if
 $n = 20$. _____ diagonals

⑤ $V = P(1 + rt)$ where V is the value of an investment of P dollars, invested at simple interest rate r for time t . Find V if
 $P = \$500$, $r = .08$ per year, $t = 3$ years. \$ _____

⑥ $s = 4.9t^2$ where s is the distance in meters a free-falling object travels in t seconds. Find s if
 $t = 4$ sec. _____ m

⑦ $P = I^2R$ where P is the power in an electrical circuit with current I and resistance R . Find P if
 $I = 12$ amperes, $R = 2$ ohms _____ watts

⑧ $A = 2w^2 + 4hw$ where A is the surface area of a square prism with a square base of side w and with height h . Find A if
 $w = 7$ cm, $h = 10$ cm _____ cm²

LO	VE	ST	AR	RY	RU	DE	LE	GG	ET	ON	ED	UP
288	276	620	210	366	82.6	378	170	52	78.4	416	194	47

Where Can You See the World's Biggest Rock Group?

Evaluate each formula below for the given values of the variables. Find each answer at the bottom of the page and cross out the letters above it. When you finish, the answer to the title question will remain.

① $V = hw^2$

where V is the volume of a square prism with a square base of side w and with height h . Find V if

$h = 8$ cm, $w = 6$ cm. _____ cm^3

② $A = \frac{1}{2}h(a + b)$

where A is the area of a trapezoid with height h , and bases of lengths a and b . Find A if

$h = 12$ cm, $a = 24$ cm, $b = 18$ cm. _____ cm^2

③ $V = C\left(1 - \frac{n}{N}\right)$

where V is the value of an asset, depreciated over N years, at the end of n years; C is the original cost of the asset. Find V if

$C = \$800$, $n = 5$ years, $N = 20$ years. \$ _____

④ $h = rt - 4.9t^2$

where h is the height in meters that an object will reach in t seconds when it is projected upward with an initial speed of r meters per second. Find h if

$r = 75$ m/sec, $t = 10$ sec. _____ m

⑤ $w = 0.8e^3$

where w is the approximate weight in grams of an ice cube with edges of length e centimeters. Find w if

$e = 5$ cm. _____ g

⑥ $R = \frac{rst}{rs + st + rt}$

where R is the total resistance of three resistances r , s , and t , in parallel. Find R if

$r = 4$ ohms, $s = 10$ ohms, $t = 15$ ohms. _____ ohms

⑦ $V = \frac{1}{3}\pi r^2 h$

where V is the volume of a right circular cone with a base of radius r and with height h . Find V if

$r = 6$ cm, $h = 10$ cm.
Use 3.14 as the value of π . _____ cm^3

GE	MT	TA	OP	RU	ST	IN	SH	MO	FI	VE	RE
260	4.5	288	376.8	112	600	2.4	341.5	275	252	100	628