

Why Did the Carpet Installer Quit His Job?

Simplify any expression below. Find your answer in the answer column and notice the letter next to it. Write the letter in each box at the bottom of the page that contains the number of that exercise.

KEEP WORKING AND YOU WILL DISCOVER THE ANSWER TO THE TITLE QUESTION!



- ① $6x^2 - 2x + 5x - 3$
- ② $5 - 7x^2 + 3x + 4x^2$
- ③ $9x^2 + 2x + 5 - 5x^2 + 8x - 6$
- ④ $-4x - 4 + 6x^2 + x - 9x^2 - 8$
- ⑤ $-5x^2 + 6 + x^2 - 1 + 5x^2$
- ⑥ $-3 + 8x^2 - x + 8 + 7x^2 + 2x$
- ⑦ $4x - 3x^2 + 9x + 4x^2 - 6x$
- ⑧ $-2x^2 - 9 - 3x - 2x^2 + 8x + 7$
- ⑨ $3x^3 + 7x^2 - 9x - x^3 + 3x^2 + 6x$
- ⑩ $-9x^3 - x^2 + 5x - 4 - 2x^3 + 8x^2 - 6x + 6$
- ⑪ $3 - 4x - 7x^2 + 4x^3 - 2 - 8x - 7x^2 - x^3$
- ⑫ $-4x^3 + 3x^2 - 5x - 7x^3 - 3x^2 + 2x - 9$
- ⑬ $6x - 7 + 8x^3 - 4x - 6x^3 - 1 - 8x + 5$
- ⑭ $-7x^2 - 4x - 7 + x^2 - 5x^2 + x^3 + 8x - 2x^3$
- ⑮ $6x^2 + 2x^4 - 9x^3 - 6x^2 + 2 - 5x^4 + x^3 - x$
- ⑯ $-3 - 3x^4 + 2x^2 - 1 + 7x^4 + x^3 - 6x^2 - 2x^4$
- ⑰ $-5x^4 - x^2 + 8x^3 + 4x + 2x^4 - x^3 + x^2$

- Ⓜ $-3x^4 - 8x^3 - x + 2$
- Ⓐ $x^2 + 5$
- ⓙ $2x^3 - 6x - 3$
- Ⓤ $2x^3 + 10x^2 - 3x$
- Ⓒ $6x^2 + 4x - 2$
- Ⓛ $6x^2 + 3x - 3$
- Ⓕ $-3x^4 - 8x^3 - 5x$
- Ⓚ $-4x^2 + 5x - 2$
- ⓗ $3x^3 - 14x^2 - 12x + 1$
- Ⓣ $-3x^4 + 7x^3 + 4x$
- Ⓨ $-3x^2 - 3x - 12$
- Ⓛ $-3x^2 + 3x + 5$
- Ⓒ $2x^4 + x^3 - 4x^2 - 4$
- Ⓟ $-x^3 - 11x^2 + 2x - 6$
- Ⓓ $-x^3 - 11x^2 + 4x - 7$
- Ⓢ $15x^2 + x + 5$
- Ⓝ $-11x^3 - 3x - 9$
- Ⓡ $-11x^3 + 7x^2 - x + 2$
- Ⓔ $4x^2 + 10x - 1$
- Ⓞ $x^2 + 7x$

11	3	13	9	6	17	16	7	9	1	14	12	17
17	5	16	8	2	17	5	12	4	15	7	10	3

Why did the ant run across the cracker box?

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



T $-15 + 7 =$	23 7	T $(-15 \div 3) + 14 =$	2 -1
A $8 - -21 =$	32 -27	E $(-10 + -5) (-2) =$	4 3
D $(3) (-9) =$	28 50	H $(-3 - 4) \div 7 =$	10 -55
H $-24 \div 4 =$	13 -8	D $(-9 \cdot 6) + -4 =$	7 30
E $-9 + -13 =$	25 -6	O $(-30 - -22) \cdot 6 =$	12 -58
O $(-2) (-25) =$	36 -5	A $(20 \div 4) \cdot -11 =$	34 100
L $-50 - 30 =$	5 29	E $(28 - -10) - 7 =$	30 9
G $-56 \div -8 =$	8 -80	I $(-13 + -12) (-4) =$	31 31
E $32 + -37 =$	3 -22	L $(4 \cdot -6) \div -8 =$	21 -48



I $-5 \cdot 20 =$	9 12	E $(-6 + 17) - 20 =$	18 14
T $30 \div -2 =$	11 -100	A $(-64 \div 2) \div -2 =$	20 2
A $-9 - -19 =$	22 77	B $(-5 - -6) \cdot -87 =$	16 -9
N $-7 \cdot -11 =$	26 -14	T $(-40 + -50) \div 9 =$	35 -12
O $-7 + -11 =$	24 -15	R $(-13 \cdot -2) + -12 =$	6 -87
S $-60 \div -5 =$	1 -24	N $(42 \div -7) - 6 =$	27 75
T $12 - 36 =$	33 -26	D $(-5 - -30) (3) =$	15 72
E $-17 - -3 =$	14 -18	L $(-12 + -18) \div -15 =$	29 -10
L $\frac{260}{-10} =$	17 10	T $(-8 \cdot -8) - -8 =$	19 16



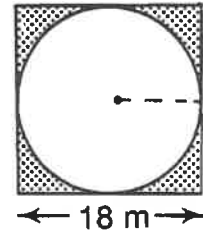
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Just Plane Geometry

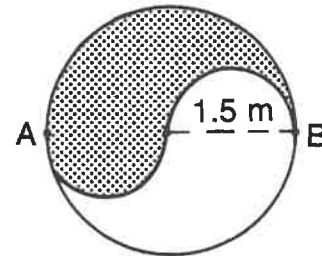
THERE IS ONE KIND OF PERSON WHO LOVES PLANE GEOMETRY. TO FIND OUT WHO:

Solve each problem (use $\pi \doteq 3.14$) and find your answers at the bottom of the page. Shade in the letter above each correct answer. When you finish, you will know who loves plane geometry!

- ① A What is the area of the inscribed circle?
 B What is the area of the shaded region?
 C What is the circumference of the inscribed circle?

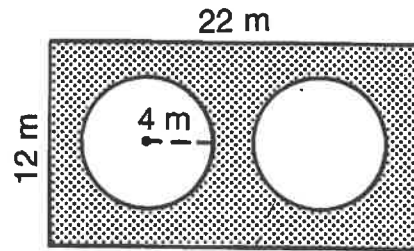


- ② A What is the area of the large circle?
 B What is the area of the shaded region?
 C What is the distance from A to B along the S-shaped curve?
 D What is the circumference of the large circle?



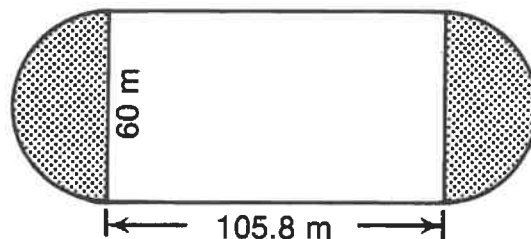
- ③ If a circle has a circumference of 8.4 cm, what is the diameter of the circle to the nearest 0.1 cm?

- ④ A What is the circumference of each small circle?
 B What is the area of each small circle?
 C What is the area of the shaded region?



- ⑤ If a circle has a circumference of 14.5 cm, what is the radius of the circle to the nearest 0.1 cm?

- ⑥ A What is the distance around this track?
 B What is the area of the shaded region?
 C What is the area of the complete region inside the track?



O	L	D	F	L	A	G	S	H	A	V	E	4	8	S	T	A	R	S
56.52 m	9174 m ²	400 m	4.71 m	254.34 m ²	5426 m ²	50.24 m ²	2.3 cm	3.5325 m ²	2.7 cm	2.5 cm	163.52 m ²	25.12 m	98.24 m ²	7.065 m ²	2826 m ²	69.66 m ²	440 m	9.42 m

Why Is A Lame Elephant Like Adding 19 And 4?

Find the simplest form for any expression below in the corresponding answer column.
(Some of the expressions cannot be simplified.) The letter of the exercise goes in
the box that contains the number of the answer. Keep working and you will get the
answer to the title question.

- | | | | |
|---------------------------|-----------------------|-------------------------------|-----------------------|
| T $x^2 \cdot x^4$ | 8 $2x^7$ | W $(4n^3t^2)(3n^2t^4)$ | 28 $8n^5t^3$ |
| E $x^3 \cdot x^7$ | 2 $x^2 + x^5$ | D $(-2n^2t^5)(4nt)$ | 9 $12n^5t^6$ |
| S $x^2 \cdot x$ | 11 x^6 | H $(2n^4t^2)(nt^2)$ | 21 $-8n^2t^4$ |
| O $2x^4 \cdot x^3$ | 20 $6x^3$ | E $(-n^3t)(-8n^2t^2)$ | 10 $-12n^7t^4$ |
| A $3x^2 \cdot 2x$ | 25 x^3 | N $(4n^6t)(-3nt^3)$ | 5 $2nt^3$ |
| N $x^2 \cdot y^3$ | 17 x^2y^3 | T $(t^2)(2nt)$ | 18 $-8n^3t^6$ |
| E $x^2 + x^5$ | 15 x^{10} | R $(-n^2t)(8t^3)$ | 12 $2n^5t^4$ |
| U $(3v^2)(4v^5)$ | 26 $-10v^5$ | E $a^4 \cdot a^6$ | 19 $6a^2b^4$ |
| O $(-2v^3)(5v^2)$ | 16 $18v^2$ | N $a^4 \cdot b^6$ | 27 a^4b^6 |
| S $(9v^4)(-2v)$ | 24 $2v^2 + 7v$ | D $a^4 + a^6$ | 23 $-6a^3b^3$ |
| A $(-6v)(-3v)$ | 6 $-18v^5$ | I $(-3ab^2)(2a^2b)$ | 14 a^{10} |
| R $(2v^2)(7v)$ | 4 $12v^7$ | P $(3b)(-2ab^3)$ | 7 $a^4 + a^6$ |
| E $2v^2 + 7v$ | 1 $14v^2k$ | R $(-6a^2)(-b)$ | 3 $-6ab^4$ |
| H $(2v^2)(7k)$ | 22 $14v^3$ | C $(2a^2b)(3b^3)$ | 13 $6a^2b$ |

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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CRYPTIC QUIZ

1. What Did the Sardine Say When a Submarine Went By?

-56 36 36 -33 -35 -12 -12 7 -35 -12 -96 -35 130 36 31 39 9 36 39 -56 9

2. What Happened to the Grocer Who Stacked All the Liquid Detergents on a High Shelf?

7 9 -6 -35 5 25 -24 -15 39 -8 130 28 31 36 100 25 36 -69

TO DECODE THE ANSWERS TO THESE QUESTIONS:

Solve any equation below and find the solution in the code. Each time it appears, write the letter of the exercise above it. Keep working and you will decode the two answers.

Ⓘ $n + 12 = 4$

Ⓔ $4x = 36$

Ⓚ $\frac{v}{3} = -11$

Ⓕ $w - 9 = 22$

Ⓦ $-7t = 42$

Ⓡ $-\frac{1}{5}y = -20$

Ⓣ $-32 = x + (-20)$

Ⓤ $-48 = 2q$

Ⓝ $13 = \frac{n}{10}$

Ⓨ $-50 = 19 + p$

Ⓢ $-15r = -75$

Ⓛ $14 = \frac{-u}{4}$

Ⓒ $x - (-16) = 44$

ⓗ $42 = 6d$

Ⓒ $\frac{1}{8}y = -12$

Ⓜ $-4 = 11 + m$

Ⓐ $-x = 35$

Ⓟ $-3 = \frac{-a}{13}$

Ⓞ $-18 + z = 18$

ⓙ $-125 = -5k$

FIND A MATCH

Solve any equation in the top block and find the solution in the bottom block. Transfer the word from the top box to the corresponding bottom box. Keep working and you will get another corny joke.

① $4x - 6 = 22$ THEY	⑤ $-4x + 6 = -42$ BECAUSE	⑨ $1 - 9n = -80$ AN	⑬ $-5n + 9 = -46$ COSTS
② $9x + 2 = 47$ IT	⑥ $-11x + 4 = 26$ A	⑩ $-5 - 15n = 10$ FARMERS	⑭ $-27 + 4n = 33$ EAR
③ $2x + 1 = -15$ SOMETHING	⑦ $8x - 18 = 6$ ARE	⑪ $12n + 2 = -46$ CORN	⑮ $-7n - 20 = -48$ PIRATE
④ $-6x - 11 = 49$ SOME	⑧ $7 + 3x = 25$ CALL	⑫ $-4 - 2n = 60$ SELLING	⑯ $19 - 3n = 82$ BUCK
$x = -10$	$n = -1$	$x = 3$	$n = -32$
$x = -8$	$x = 7$	$x = 6$	$n = 4$
$n = -4$	$x = 12$	$x = 5$	$n = 11$
$x = -2$	$n = -21$	$n = 9$	$n = 15$

Did You Hear About...

A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
							?

$-7x + 12$ ASKING
$25x - 30$ FOOTBALL
$x - 18$ COULD
$33x - 14$ THE
$44a + 16$ AS
$15x + 28$ HIS
$13a - 27$ TO
$25n - 88$ SO
$44a - 13$ FUMBLE
$40a + 37$ BALL
$5n - 24$ WHO
$-48n - 16$ FLOOD
$40a + 5$ PLAYER
$-48n - 88$ UNDER

DIRECTIONS: Simplify any expression below. Find your answer in one of the answer columns and notice the word next to it. Write the word in the box above that has the same letter as that exercise.

KEEP WORKING AND YOU WILL HEAR ABOUT SOMETHING ALL WET!

- (A) $5x - 7(2 - 4x)$
- (B) $8 - 3(6 - 6x)$
- (C) $9a - 4(2a + 5)$
- (D) $-3 - 8(-5a - 1)$
- (E) $-7n + 4(-6 + 3n)$
- (F) $-8(2n - 4) + 5$
- (G) $2(x + 6) - 9x$
- (H) $-5(-7 - 3x) - 7$
- (I) $4(-2a + 6) + a$
- (J) $4a - 9(3 - a)$
- (K) $-8 - 8(6n + 1)$
- (L) $-5(-7 + n) - 7n$
- (M) $4x - 7(3 - 3x) - 9$
- (N) $-8 + 6(-x - 3) + 4x$
- (O) $-2a + 7 - 3(-9 - 4a)$
- (P) $-1 + 5a - 9(-2 + 5a)$
- (Q) $9(3n - 9) - 7 - 2n$
- (R) $-4(5 + n) + n + 6$
- (S) $-6x - 2(-5x + 9) - 3x$
- (T) $5 - 8(1 - x) - 9x$
- (U) $-a + 7 + 5(-4 + 7a)$
- (V) $-6(-6a - 3) - 2 + 8a$
- (W) $4n - 5n + 3(n + 4)$
- (X) $7 + 9(-2n + 9) + 1$

$a - 24$ HIKE
$a - 20$ FOOTBALL
$-7a + 24$ COACH
$2n + 12$ A
$-40a + 17$ WATER
$-12n + 35$ THE
$-3n - 14$ HE
$18x - 10$ ROOKIE
$10a + 34$ WITH
$-x - 3$ GO
$-16n + 37$ KEPT
$34a - 13$ IN
$-18n + 89$ SUB
$-2x - 26$ FIELD

CRYPTIC QUIZ

1. How Did Alfo Make A Quart Of Juice From Three Oranges?

ANSWER: 99-7-20-18-25-18-7-99-14-15-7-25-38-45-6-6-5-6

2. What Do You Get When The Post Office Burns Down?

ANSWER: 18-24-18-25-6-13-42-41-16-18-24-35-84-18-99-16

3. What Do Gorillas Sleep On In Fruit Orchards?

ANSWER: 18-72-27-99-24-13-7-25

TO DECODE THE ANSWERS TO THESE QUESTIONS:

Simplify any expression below and find your answer in the code. Each time the answer appears, write the letter of that expression above it. Keep working and you will decode the three answers.

(P) $(16 - 7) \times 8 =$

(L) $12 + (36 \div 9) =$

(G) $28 \div (10 - 8) =$

(U) $9 (15 \div 3) =$

(W) $[(48 + 2) 2] \div 5 =$

(I) $(8 + 3) \cdot (16 - 7) =$

(H) $(20 \cdot 6) \div (6 + 2) =$

(O) $[45 - (3 \cdot 2)] \div 3 =$

(Z) $2 + [48 \div (12 + 4)] =$

(F) $3 \times 2 [4 + (9 \div 3)] =$

(C) $72 \div \left(\frac{29 + 7}{4 \times 3} \right) =$

(Q) $35 + \frac{50 + 25}{5 \cdot 5} =$

(K) $80 - [3 (8 + 7)] =$

(E) $[5 (20 - 2)] \div \frac{30}{2} =$

(M) $3 [4 (9 - 2)] =$

(R) $\frac{2 [(7 \cdot 3) + 6]}{26 \div 13} =$

(B) $5 + [4 \cdot 3 (2 + 1)] =$

(T) $\frac{7(8 - 1) + (42 \div 3)}{(10 - 7)3} =$

(S) $50 \div [(4 \cdot 5) - (36 \div 2)] =$

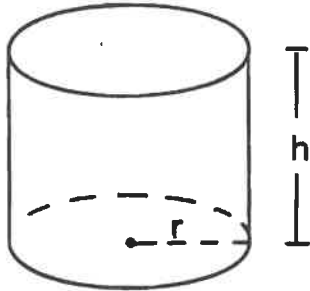
(A) $\left[\frac{3 (12 - 7)}{2 + 3} \right] \times 6 =$



Solid Fun

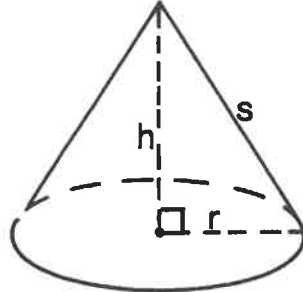


Given under each figure are the formulas for its volume (V) and surface area (S). Use the appropriate formula to do any exercise below (use $\pi \doteq 3.14$). Circle the letter of the correct answer. Write this letter in each box at the bottom of the page that contains the number of that exercise.



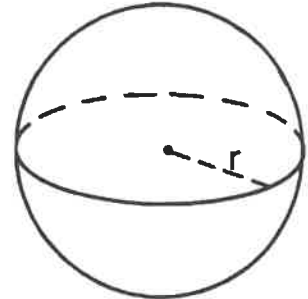
$$V = \pi r^2 h$$

$$S = 2\pi r(r+h)$$



$$V = \frac{1}{3} \pi r^2 h$$

$$S = \pi r(r+s)$$



$$V = \frac{4}{3} \pi r^3$$

$$S = 4\pi r^2$$

- ① Find the volume of a cylinder if $r = 4$ cm, $h = 10$ cm.
(R) 502.4 cm^3 (S) 516.4 cm^3
- ② Find the surface area of a cylinder if $r = 4$ cm, $h = 10$ cm.
(I) 351.68 cm^2 (A) 349.58 cm^2
- ③ Find the volume of a cone if $r = 6$ cm, $h = 8$ cm.
(T) 310.54 cm^3 (E) 301.44 cm^3
- ④ Find the surface area of a cone if $r = 6$ cm, $h = 8$ cm, $s = 10$ cm.
(S) 301.44 cm^2 (D) 290.44 cm^2
- ⑤ Find the volume of a sphere if $r = 6$ mm.
(H) 904.32 mm^3 (L) 912.42 mm^3
- ⑥ Find the surface area of a sphere if $r = 6$ mm.
(P) 412.26 mm^2 (F) 452.16 mm^2
- ⑦ Find the volume of a cylinder if $r = 1.5$ m, $h = 4$ m.
(T) 29.16 m^3 (N) 28.26 m^3
- ⑧ Find the surface area of a cylinder if $r = 1.5$ m, $h = 4$ m.
(G) 50.21 m^2 (B) 51.81 m^2
- ⑨ Find the volume of a cone if $r = 0.5$ dm, $h = 1.2$ dm.
(P) 0.415 dm^3 (M) 0.314 dm^3
- ⑩ Find the surface area of a cone if $r = 0.5$ dm, $h = 1.2$ dm, $s = 1.3$ dm.
(K) 2.826 dm^2 (D) 2.906 dm^2
- ⑪ Find the volume of a sphere that has a diameter of 40 km.
(W) $30,463\frac{1}{3} \text{ km}^3$ (C) $33,493\frac{1}{3} \text{ km}^3$
- ⑫ Find the surface area of a sphere that has a diameter of 40 km.
(O) 5024 km^2 (A) 5048 km^2

11	5	2	11	10	3	7	4	11	12	9	3	6	1	12	9	8	1	12	10	3	7	5	12	9	3	4
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