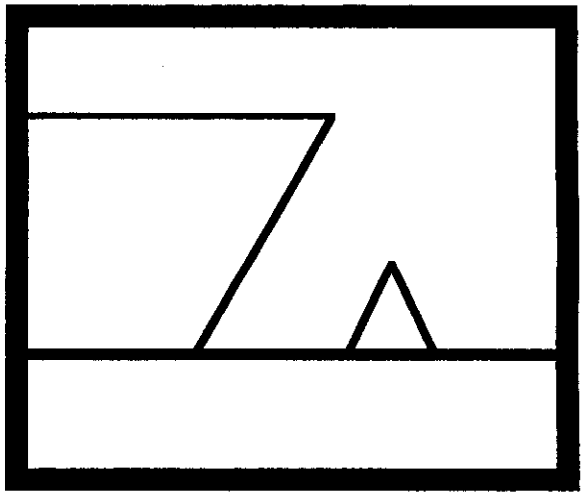
WHAT IS THE TITLE OF THIS PICTURE?

Find each solution in the coded title. Each time it appears, write the letter of the exercise above it.



CODED TITLE:

135	−65	−2	−98	−9	48	−14	−14	−2	7	−2	−8	105
−81	60	60	−17	104	48	−81	−3	−72	−81	60	5	135	48	7	−3
48	122	11	−14	60	144	−8	−2	−8	105	43	144	−2	−81	−12	−65

V $5x + 8 = 43$

A $2n - 15 = 81$

C $-9a + 4 = 112$

N $-3 + 10y = -83$

O $\frac{w}{4} + 7 = 22$

T $\frac{x}{9} - 1 = -10$

L $\frac{d}{-8} + 37 = 24$

P $11 - \frac{k}{2} = 60$

E $-5 - 16y = 43$

G $\frac{-u}{7} + 2 = -13$

D $15 - 8m = -73$

S $\frac{1}{3}x + 10 = 55$

R $7t - 18 = -116$

H $-\frac{1}{5}q - 4 = 9$

I $72 + 36n = 0$

W $7 - \frac{1}{16}x = -2$

What Do You Call Someone Who Can't Turn Pancakes?

Cross out the letter pair next to each correct solution. For each letter pair you DON'T cross out, write the upper case letter in the box containing the lower case letter.

a	b	c	d	e	f	g	h	i	j	k	l	m

1 $9y + 4 = 2y + 25$

2 $5n - 2 = n + 18$

3 $11 + 8q = 3q - 19$

4 $-3 - 10x = 25 + 4x$

5 $15a = 6a - 90$

6 $24 - 5d = d$

7 Xavier is thinking of a number. Nine more than four times the number is the same as fifteen less than twice the number. What is Xavier's number?

8 $2 + 11b = 8b + 15$

9 $7m + 32 = 12 - m$

10 $16 - 5y = 1 - 4y$

11 $2x - 8x + 1 = 9 - 10x$

12 $-3t - 8 + 7t = 34 + 9t - 2$

13 $2a + 3a + 4a = 5a - 18$

14 Yvonne is thinking of a number. Fifty, decreased by three times the number, is the same as seven times the number, increased by 80. What is Yvonne's number?

15 $5(x + 4) = 7x - 26$

16 $20 - 9w = 4(15 - w)$

17 $2(11 + 3n) = 12n$

18 $10 - 4(p + 7) = 2(1 - p)$

19 $11x = 8x - 3(5 - 2x)$

20 $9 - 6(4u - 1) = u + 15$

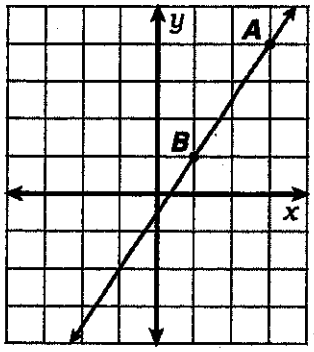
21 Zabato is thinking of a number. Three times the sum of the number and ten is the same as eight times the number. What is Zabato's number?

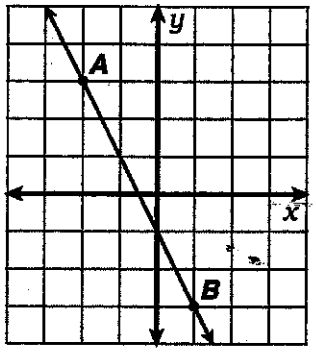
e • N	4
a • P	-6
f • I	-1
d • R	-12
l • F	3
b • A	7
i • E	-10
g • S	5
j • L	-9
k • U	-2
c • N	15
k • O	-6
e • H	$-2\frac{1}{2}$
m • T	-3
g • P	$-3\frac{3}{4}$
a • R	-8
l • S	$4\frac{1}{3}$
h • D	2
d • F	11
i • L	$-4\frac{1}{2}$
e • T	-8
l • V	6
h • S	-10
l • P	18
m • E	$3\frac{2}{3}$
e • L	-9
c • N	0
i • G	23
a • P	5
i • F	$6\frac{1}{3}$

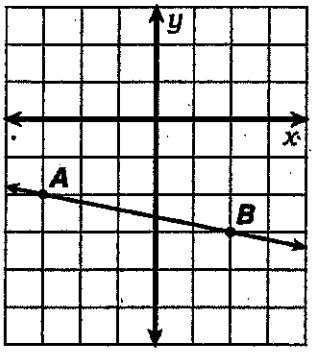
What Is Used To Repair Big, Brass Band Instruments?

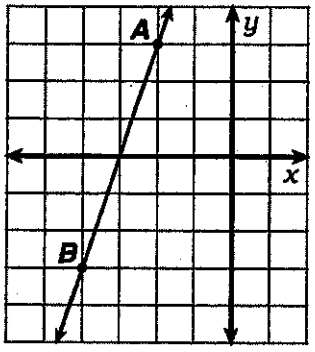
Cross out the letter pair next to each correct answer. For each letter pair that you DON'T cross out, write the upper case letter in the box containing the lower case letter.

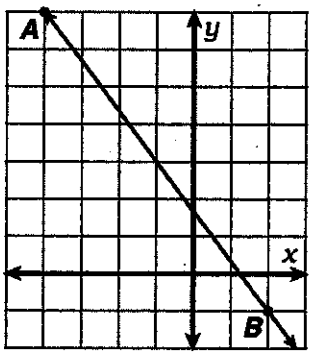
In Exercises 1-6, find the slope of $\overleftrightarrow{AB}$.

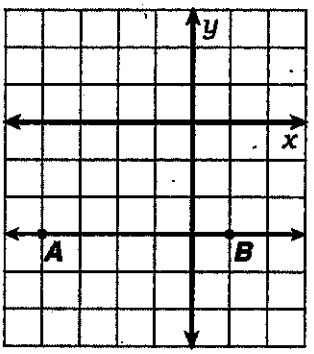
1. 

2. 

3. 

4. 

5. 

6. 

answers 1-6

- i • O $-\frac{4}{3}$
- e • U $-\frac{2}{3}$
- g • R $\frac{3}{2}$
- a • T 3
- b • A $-\frac{3}{5}$
- j • V -2
- d • L 0
- l • E $\frac{7}{2}$
- h • N $-\frac{1}{5}$

In Exercises 7-18, find the slope of the line that passes through the two given points.

7. $(5,1)$; $(8,3)$
8. $(6,3)$; $(1,4)$
9. $(2,-2)$; $(5,7)$
10. $(1,-6)$; $(9,-8)$
11. $(-3,7)$; $(-10,0)$
12. $(-9,4)$; $(-6,-4)$
13. $(0,-3)$; $(-2,7)$
14. $(2,8)$; $(0,3)$
15. $(-6,4)$; $(6,-5)$
16. $(-5,-9)$; $(-1,-1)$
17. $(-2,11)$; $(7,15)$
18. $(-5,6)$; $(0,0)$

answers 7-12

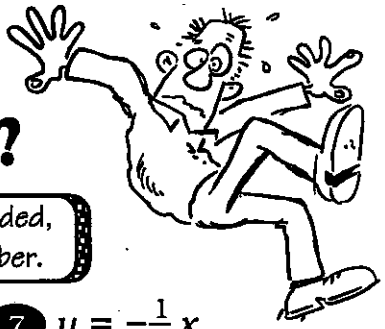
- f • P 1
- k • U $-\frac{7}{4}$
- a • S $-\frac{1}{5}$
- c • N 3
- d • B $-\frac{8}{3}$
- g • A 2
- i • G $\frac{2}{5}$
- h • N $\frac{2}{3}$
- m • E $-\frac{1}{4}$

answers 13-18

- j • L -3
- h • R -5
- d • T $\frac{5}{7}$
- f • N $\frac{4}{9}$
- f • B $-\frac{2}{5}$
- c • T $\frac{5}{2}$
- d • S $-\frac{3}{4}$
- m • D $-\frac{6}{5}$
- j • O 2

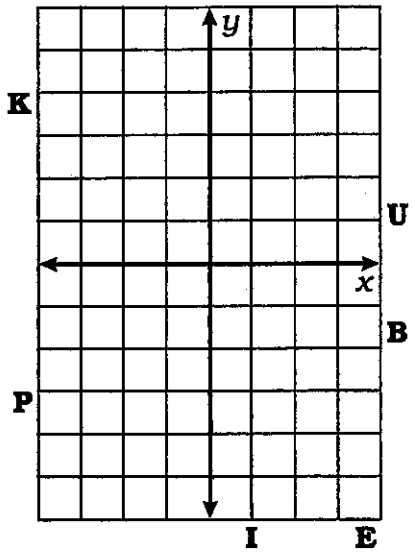
a	b	c	d	e	f	g	h	i	j	k	l	m

What Happened to the Guy Who Fell Into an Upholstery Machine?

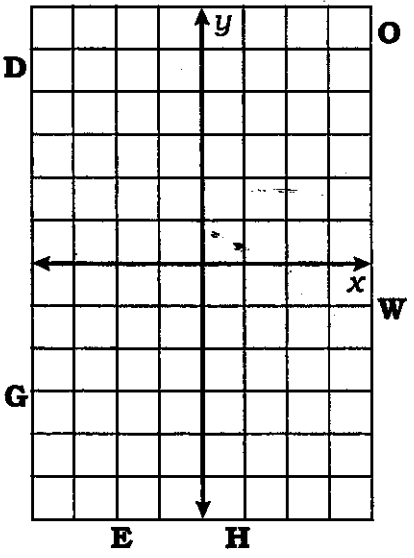


Use the slope and y-intercept to graph each equation. The graph, if extended, will cross a letter. Write this letter in the box containing the exercise number.

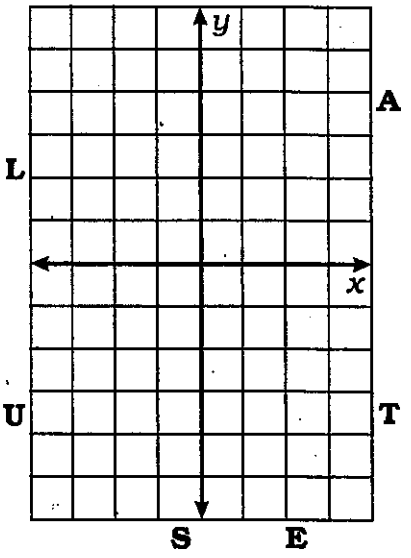
1. $y = \frac{3}{4}x - 2$
2. $y = -2x + 1$
3. $y = -\frac{5}{2}x - 4$



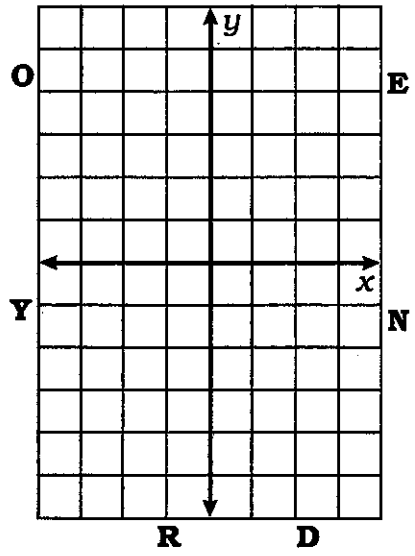
4. $y = \frac{1}{3}x + 4$
5. $y = 3x - 1$
6. $y = -\frac{7}{4}x - 5$



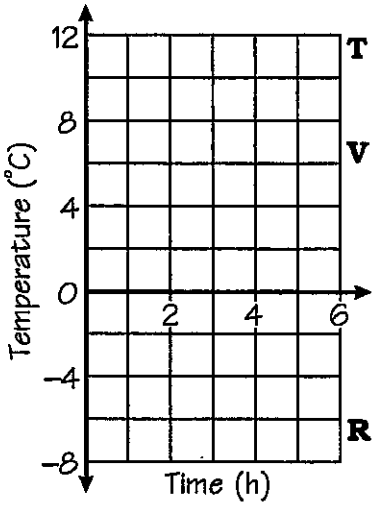
7. $y = -\frac{1}{2}x$
8. $y = -4x + 3$
9. $y = \frac{8}{3}x - 5$



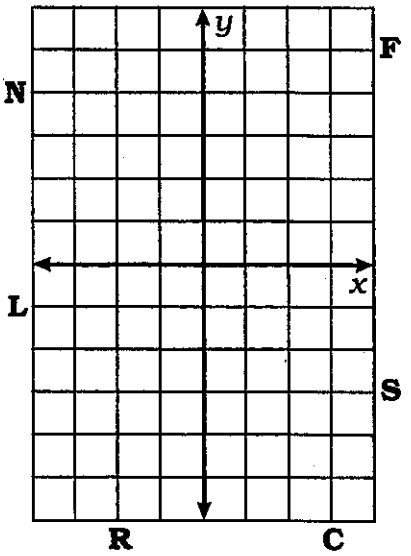
10. $y = x + 3$
11. $y = -x - 4$
12. $y = x$



13. The temperature is –6°C and rising at a rate of 2° per hour.
14. The temperature is 12°C and dropping at a rate of 3° per hour.



15. $y = 5$
16. $x = -2$
17. $y = -1$
18. $x = 3$



6	12	3	9	15	1	17	7	10	14	8	18	4	13	2	16	5	11

Why Did the Orchestra Get an "R" Rating?

Write the equation in the form indicated. Circle the letter next to the correct equation, then write this letter in each box containing the exercise number.

In Exercises 1-7, write the equation in slope-intercept form.

1. $y+8=3(x+2)$	(K) $y=3x-6$	(H) $y=3x-2$
2. $y-5=\frac{1}{2}(x+4)$	(T) $y=\frac{1}{2}x-1$	(D) $y=\frac{1}{2}x+7$
3. $y-9=-5(x-2)$	(A) $y=-5x+19$	(E) $y=-5x-1$
4. $y+1=\frac{2}{3}(x-12)$	(Y) $y=\frac{2}{3}x-4$	(U) $y=\frac{2}{3}x-9$
5. $y-2=\frac{7}{4}(x+1)$	(I) $y=\frac{7}{4}x+\frac{15}{4}$	(B) $y=\frac{7}{4}x+\frac{3}{4}$
6. $y-4=-\frac{1}{5}(x-3)$	(T) $y=-\frac{1}{5}x+\frac{23}{5}$	(S) $y=-\frac{1}{5}x+\frac{8}{5}$
7. $y-7=-\frac{8}{3}(x+2)$	(P) $y=-\frac{8}{3}x-\frac{29}{3}$	(V) $y=-\frac{8}{3}x+\frac{5}{3}$

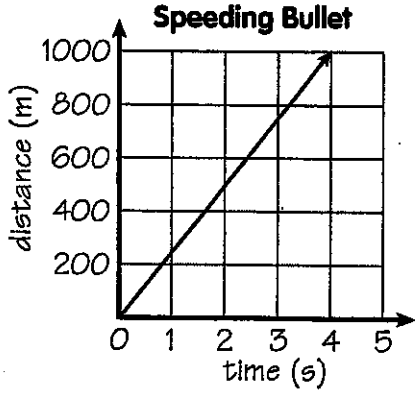
In Exercises 8-14, write the equation in standard form with integer coefficients.

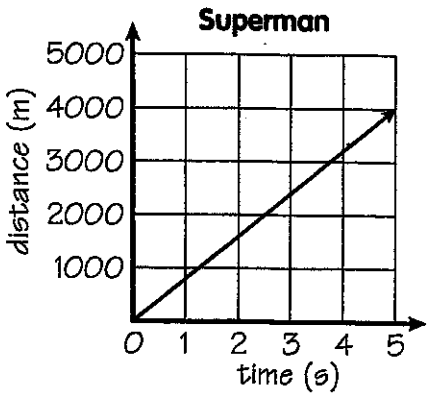
8. $y=2x+9$	(M) $-2x+y=9$	(L) $2x-y=9$
9. $y=\frac{4}{3}x-1$	(R) $-4x-3y=1$	(N) $-4x+3y=-3$
10. $y=-\frac{5}{8}x+3$	(S) $5x-8y=15$	(C) $5x+8y=24$
11. $y=-4x-15$	(L) $4x+y=-15$	(G) $-4x+y=15$
12. $y=\frac{3}{10}x+8$	(B) $-3x-10y=60$	(X) $-3x+10y=80$
13. $y=-\frac{16}{5}x+\frac{4}{5}$	(O) $16x+5y=4$	(E) $-16x-5y=4$
14. $y=\frac{7}{4}x-\frac{1}{8}$	(R) $14x+8y=-8$	(S) $-14x+8y=-1$

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

extra: Comparing Slopes

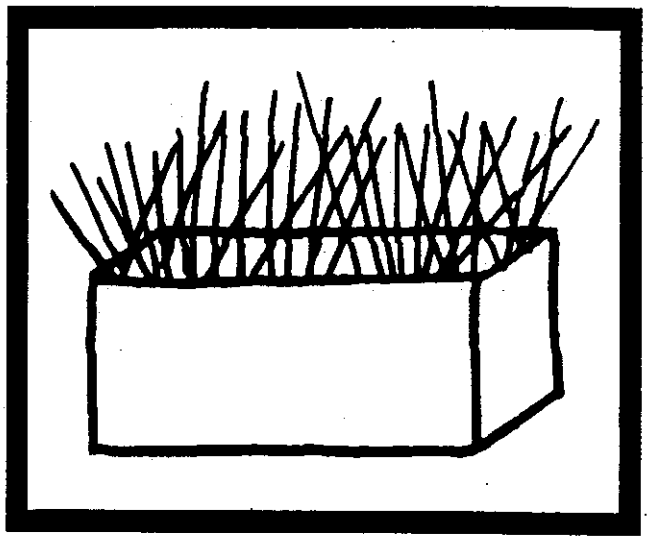
1. Which of these two graphed lines has the greater slope?
2. What is the slope of the speeding bullet graph?
3. What is the slope of the Superman graph?
4. Which is faster, Superman or a speeding bullet?





What Is The Title of This Picture?

Write the equation of the line through the two given points, then find your answer in the answer columns. Each time the exercise number appears in the code, write the letter of the answer above it.



Coded Title:

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

1. $(3,1), (9,5)$

2. $(1,1), (-2,7)$

3. $(-4,-3), (8,0)$

4. $(-1,4), (-4,-5)$

5. $(0,-4), (-4,6)$

6. $(-6,3), (6,-1)$

Answers 1-6:

K $y = \frac{1}{4}x + 1$

O $y = -\frac{5}{2}x - 4$

D $y = -\frac{1}{3}x - 4$

U $y = \frac{2}{3}x - 1$

E $y = 3x - 2$

V $y = \frac{2}{3}x + 7$

S $y = -2x + 3$

T $y = -\frac{1}{3}x + 1$

A $y = 3x + 7$

B $y = -\frac{5}{2}x + 3$

I $y = \frac{1}{4}x - 2$

7. $(-1,-6), (-3,-8)$

8. $(-1,3), (3,5)$

9. $(-2,5), (1,-7)$

10. $\left(\frac{1}{2},2\right), \left(-\frac{3}{2},4\right)$

11. $(1,3), (-7,-3)$

12. $(-3,8), (0,0)$

Answers 7-12:

R $y = \frac{3}{4}x + \frac{9}{4}$

W $y = \frac{3}{8}x$

C $y = \frac{1}{2}x + \frac{7}{2}$

L $y = -x + \frac{7}{2}$

F $y = -4x - 3$

H $y = \frac{1}{2}x - 3$

N $y = -x + \frac{5}{2}$

P $y = -\frac{8}{3}x$

M $y = -4x + \frac{9}{4}$

E $y = x - 5$

G $y = \frac{3}{4}x - 5$

What Do You Call a Female Bug That Floats?

Graph the solution for each exercise. Find your answer in the answer column, then write the letter of the solution in the box containing the exercise number.

1 $2x \geq -6$ and $x - 1 < 0$

2 $-7x < 14$ and $3x + 2 \leq 8$

3 $-8 < x - 5 < -3$

4 $1 \leq 4x + 1 \leq 17$

5 $1 \leq -2x + 7 < 9$

6 $3x - 1 < -7$ or $4x + 9 \geq 13$

7 $-5x > 15$ or $x - 5 > -6$

8 $4 - 15x \geq 4$ or $12x > 36$

9 $-3x + 10 \geq 16$ or $9 - x < 7$

10 $\frac{x}{2} \geq -2$ and $5 - 2x \geq 3$

11 $8 < 8 - \frac{1}{3}x < 9$

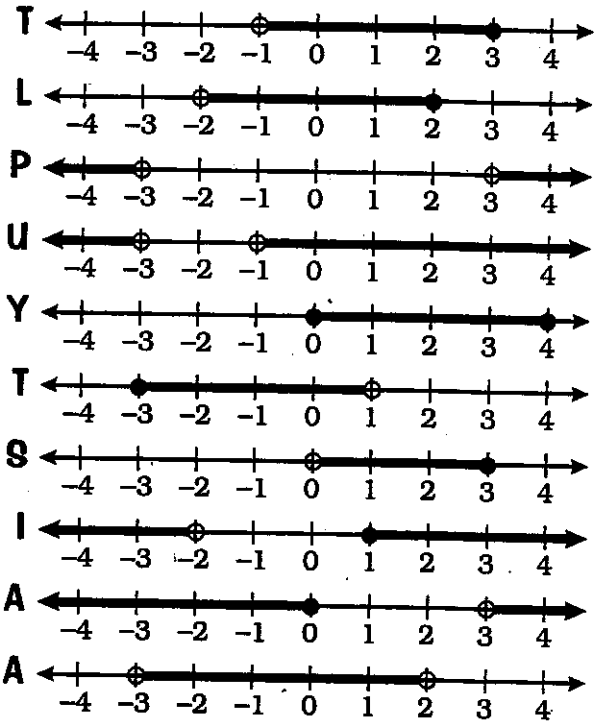
12 $-6x - 1 > 5$ or $11 + 4x \geq 19$

13 Today in Anchorage, the expected low temperature is –8°F, and the expected high temperature is 12°F. Express this range as a compound inequality.

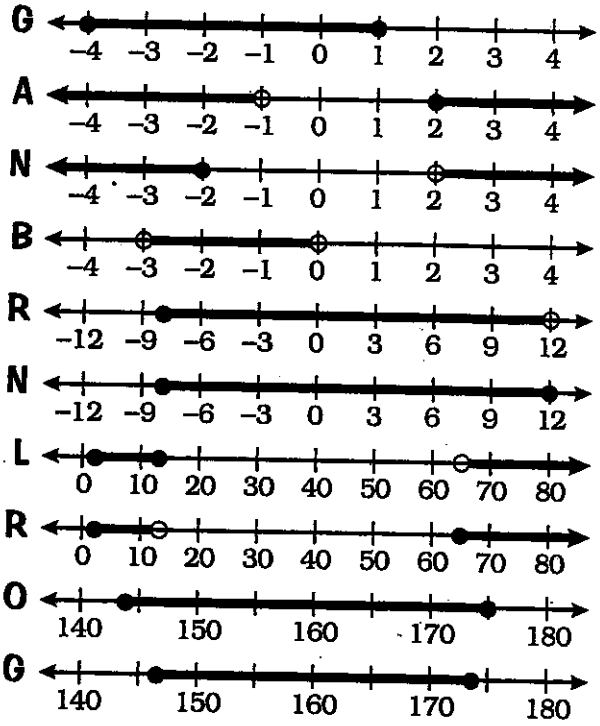
14 Flix Theater has a reduced ticket price for children who are at least 2 years old but less than 13 years old. The same price is given to seniors who are at least 65 years old. Model these ranges on a number line.

15 Your heart rate rises when you exercise. During aerobic exercise, your heart rate should be at least $0.7(220 - a)$, but no more than $0.85(220 - a)$, where a is your age. Find the target range if you are 14 years old.

Answers for Exercises 1-8



Answers for Exercises 9-15



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

How Did the Dinosaur Feel Just Before the Big Algebra Test?

Circle the number-letter pair next to each TRUE statement (there are four true statements in each set). Write the letter in the matching numbered box at the bottom of the page. If the statement is FALSE, write the correct expression on the line provided.

Set 1

14 • O $(x+5)(x+2) = x^2 + 7x + 10$

5 • A $(a-3)(a-8) = a^2 - 11a + 24$

19 • D $(n-7)(n-4) = n^2 - 3n + 28$

8 • K $(d+6)(d-1) = d^2 - 5d - 6$

16 • S $(u-4)(u+11) = u^2 + 7u - 44$

2 • I $(y+9)(y-2) = y^2 + 7y - 11$

11 • E $(m+10)(m+3) = m^2 + 13m + 30$

Set 2

6 • S $(3w+2)(w+5) = 3w^2 + 17w + 10$

12 • N $(5t+4)(2t+1) = 10t^2 + 13t + 5$

19 • E $(2c-3)(7c-4) = 14c^2 - 29c + 12$

4 • S $(4q-1)(3q-8) = 12q^2 - 35q - 8$

8 • A $(2x+2)(9x-4) = 18x^2 + 10x - 8$

1 • H $(5b-8)(5b+3) = 25b^2 - 25b - 24$

10 • T $(12k+3)(3k-10) = 36k^2 - 99k - 30$

Set 3

12 • R $(x-5y)(2x+3y) = 2x^2 - 7xy - 15y^2$

20 • D $(2a+5b)(3a-b) = 6a^2 - 17ab - 5b^2$

2 • E $(4p-3q)(9p+2q) = 36p^2 - 19pq - 6q^2$

13 • N $(3x-8y)(5x-2y) = 15x^2 - 46xy - 16y^2$

15 • U $(7c+2d)(7c+2d) = 49c^2 + 28cd + 4d^2$

9 • T $(15x-4y)(x+4y) = 15x^2 + 64xy - 16y^2$

4 • W $(2u+3v)(2u-3v) = 4u^2 - 9v^2$

Set 4

20 • X $(n^2+9)(n^2+4) = n^4 + 13n^2 + 36$

10 • N $(2e^2-5)(3e^2-2) = 6e^4 - 19e^2 + 10$

7 • H $(6w^2-1)(5w^2+4) = 30w^4 + 29w^2 - 4$

18 • R $(c^2+3)(c+6) = c^3 + 6c^2 + 3c + 18$

10 • T $(a^2+7)(2a-1) = 2a^3 - a^2 + 7a - 7$

13 • V $(x^2+4y)(x^2-4y) = x^4 - 16y^2$

17 • L $(x^2+4y)(x^2+4y) = x^4 + 8xy + 16y^2$

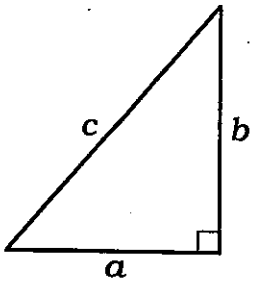
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

PUNCHLINE • Algebra • Book B

What Did Dr. Dripp Say to the Bleeding Kid Who Refused to Get Stitches?

Find the missing side length, if possible (some answers are rounded). Cross out the letter next to the correct answer. When you finish, the answer to the title question will remain.

For Exercises 1-8, refer to the diagram at the right.



1. $a = 6$, $b = 8$
   $c =$ _____

2. $a = 10$, $b = 7$
   $c =$ _____

3. $a = 15$, $b = 15$
   $c =$ _____

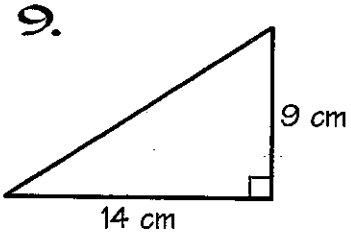
4. $a = 10$, $c = 26$
   $b =$ _____

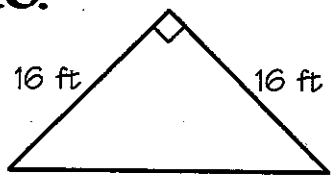
5. $b = 30$, $c = 50$
   $a =$ _____

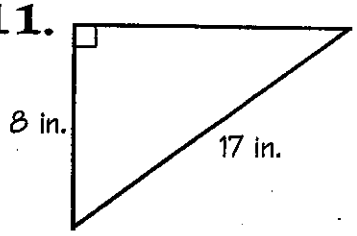
6. $a = 5$, $c = 12$
   $b =$ _____

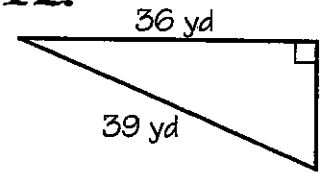
7. $b = 13$, $c = 20$
   $a =$ _____

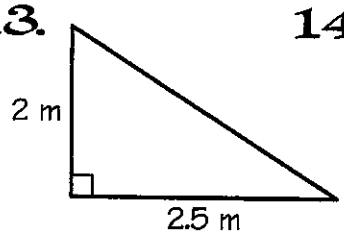
8. $a = 1.5$, $b = 2$
   $c =$ _____

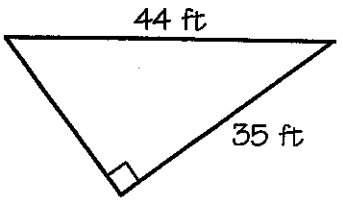
9. 

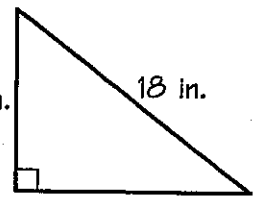
10. 

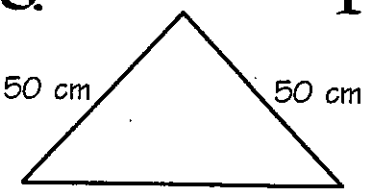
11. 

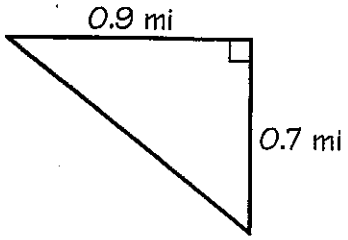
12. 

13. 

14. 

15. 

16. 

17. 

Answers 1-8	
A	40
S	12.2
O	2.8
C	10.9
U	2.5
P	42
T	22.9
R	24
B	15.2
U	11.5
E	10
R	21.2
L	
L	
E	
D	

Answers 9-17	
T	3.2 m
H	17.4 cm
I	22.6 ft
S	16 yd
T	14.2 in.
O	24.5 ft
E	15 in.
L	*not possible*
L	1.3 mi
P	26.7 ft
F	3.6 m
I	1.1 mi
T	16.6 cm
	14.6 in.
	15 yd

Triangles:
The Pythagorean Theorem