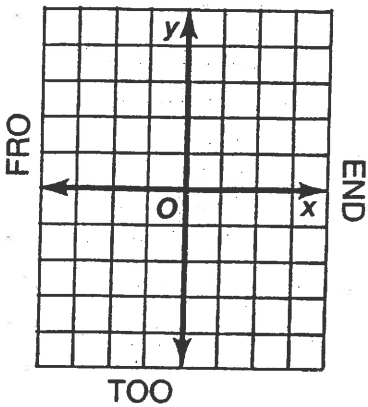


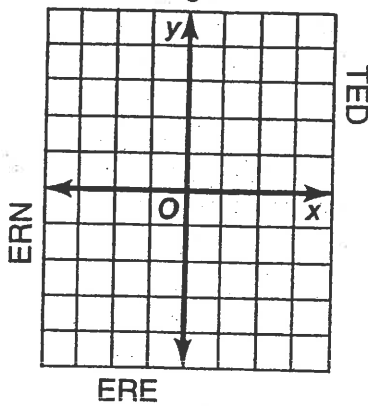
What Did the Toothless Old Termite Say When He Entered a Tavern ?

Graph each pair of inequalities below and indicate the solution set of the system with crosshatching or shading. The crosshatching or shading, if extended, would cover a set of three letters. Print these letters in the three boxes at the bottom of the page that contain the exercise number.

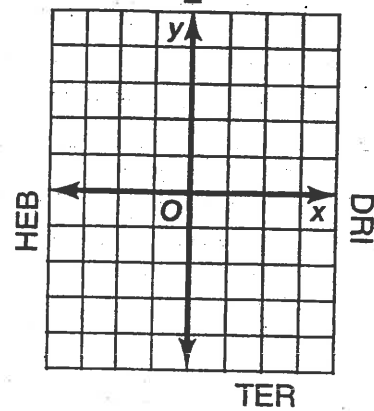
① $y \leq x - 1$
 $y \geq -3$



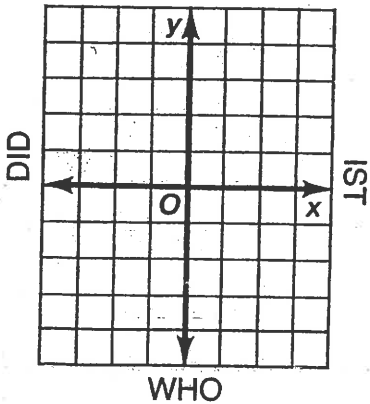
② $x \leq 2$
 $y \leq \frac{2}{3}x - 1$



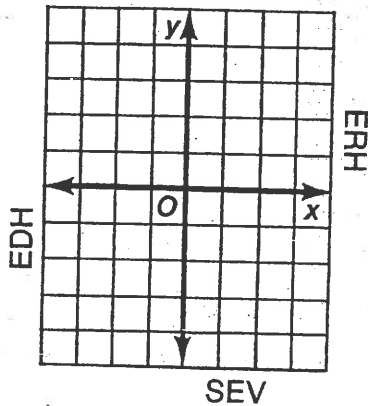
③ $y < -x + 1$
 $y > \frac{1}{2}x - 2$



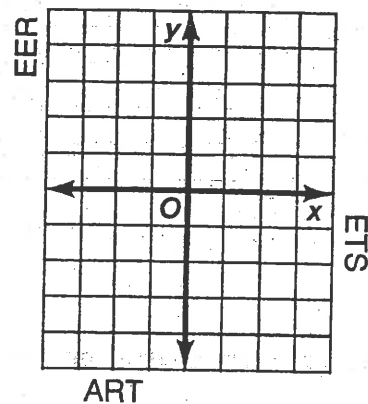
④ $y < x$
 $3x + 2y > 4$



⑤ $x - 3y \leq 12$
 $x > 2$



⑥ $y \leq 1$
 $2x + y < 1$



4	4	4	3	3	3	6	6	6	1	1	1	5	5	5	2	2	2
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Who Discovered the World's Smallest Glacier?

Use the table below to specify each union or intersection. Then find the corresponding graph in the column of graphs. Write the letter of the graph in each box that contains the number of the exercise.

$A = \{x | x > -3\}$
 $B = \{x | x < 2\}$
 $C = \{x | x \geq 0\}$
 $D = \{x | x \leq -1\}$
 $E = \{x | x \leq 4\}$
 $F = \{x | x > 2\}$
 $G = \{x | x < 0\}$

- ① $A \cap C$
- ② $A \cup C$
- ③ $B \cap D$
- ④ $B \cup D$
- ⑤ $A \cap B$
- ⑥ $A \cup B$
- ⑦ $E \cap G$
- ⑧ $E \cup G$
- ⑨ $C \cap D$
- ⑩ $C \cup D$
- ⑪ $B \cap C$
- ⑫ $D \cup F$
- ⑬ $A \cap F$
- ⑭ $B \cup F$

5	10	3	2	13	11	7	9	14	8	1	6	11	11	4	14	12	3	13	14	6	1	8
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OBJECTIVE 2-e: To identify the graph of the union or intersection of two sets expressed as inequalities.

What Kind of Shoes Does a Frog Wear?

Solve each system of equations by the addition method. (You may first have to multiply both sides of one equation by -1 .) Find your answer below and cross out the letter above it. When you finish, the answer to the title question will remain.

① $5x - 2y = 4$

$x + 2y = 8$

⑤ $5x + y = 2$

$5x - 3y = 14$

⑨ $x + 2y = -2$

$4x + 2y = -17$

② $-3x + 2y = 11$

$3x - 4y = -19$

⑥ $7x - 4y = -10$

$4y = x - 2$

⑩ $-6x - 5y = 20$

$-y = 6x + 4$

③ $3x + y = 13$

$x + y = 3$

⑦ $x = 5 - 9y$

$4x + 9y = -7$

⑪ $-3x + y = -2$

$-2 = 7x - y$

④ $6x - 2y = 10$

$x - 2y = -5$

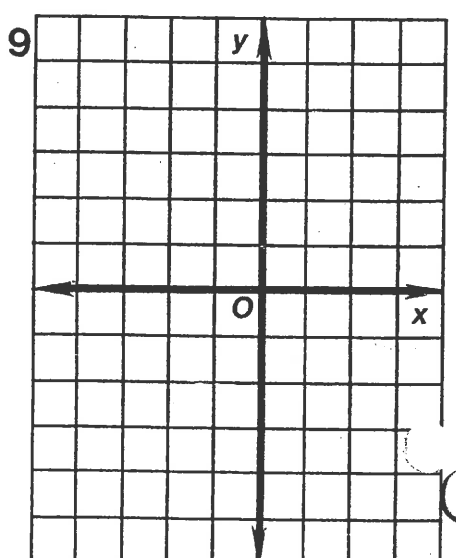
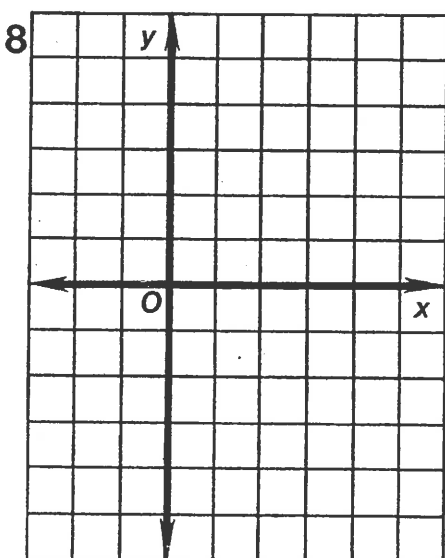
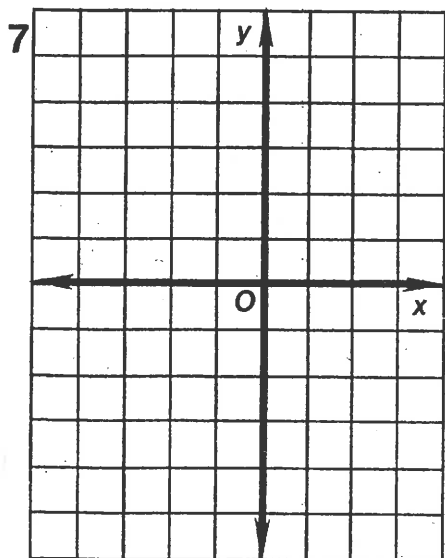
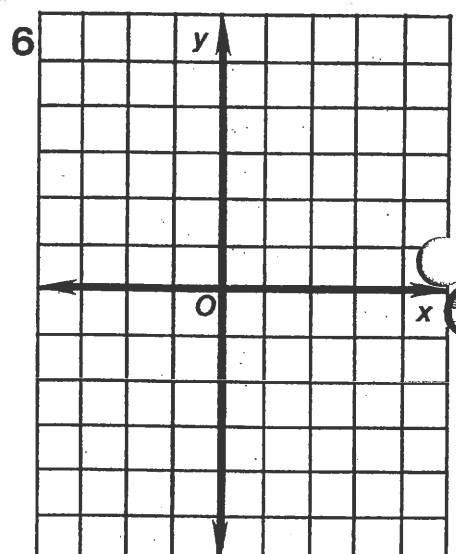
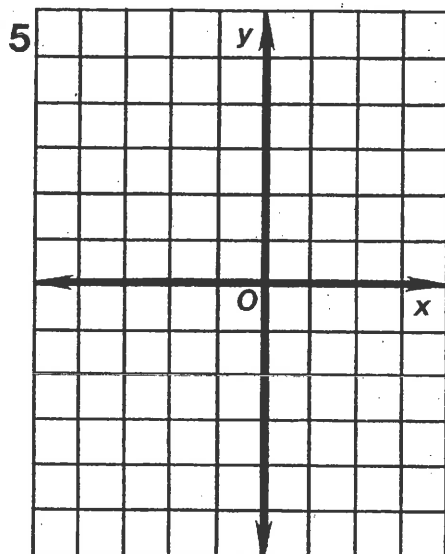
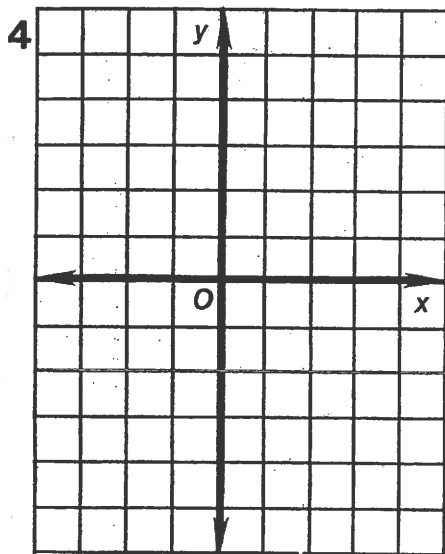
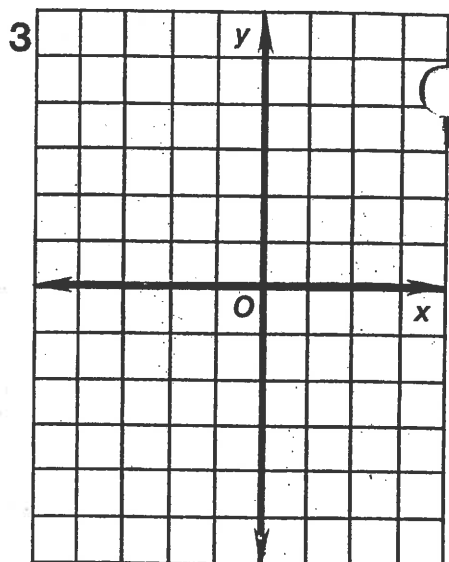
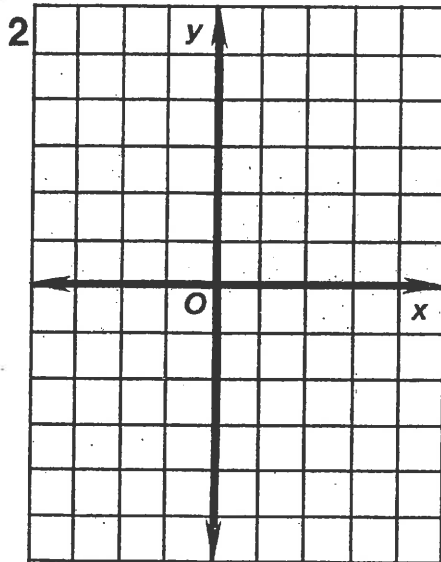
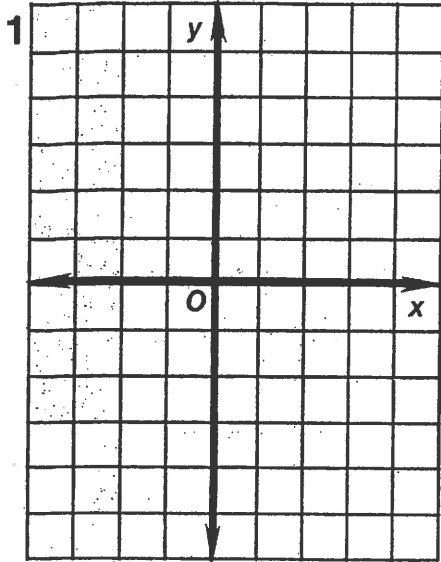
⑧ $3x = 5y - 9$

$2y = 3x + 3$

⑫ $10x - 5 = 3y$

$2x - 3y = 1$

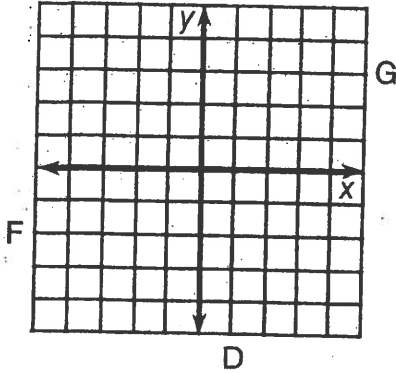
S	H	O	L	D	P	R	E	S	A	N	T	I	O	E	N	A	I	D	R
(0, -4)	(2, 0)	(3, 7)	(1, 3)	(-2, -1)	(-5, 3)	(3, 4)	(1, 2)	(2, 3)	(-4, 1)	(2, -4)	(-2, 2)	(-1, -5)	(-1, 6)	(-1, 4)	(-5, 2)	(5, -3)	(5, -2)	(-5, 4)	(1, -3)



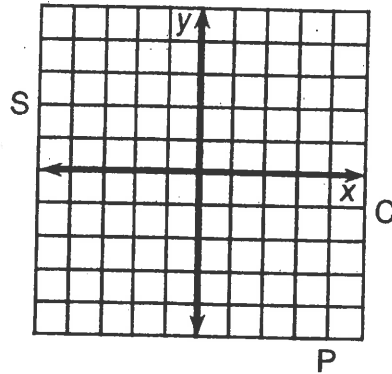
Why Did the Cow Want a Divorce?

Graph each equation below. The graph, if extended, will cross a letter. Look for this letter in the string of letters near the bottom of the page and CROSS IT OUT each time it appears. When you finish, write the remaining letters in the rectangle at the bottom of the page.

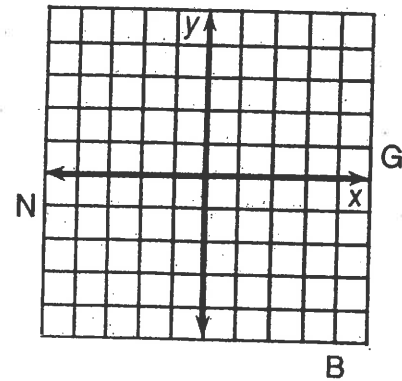
① $y = -2$



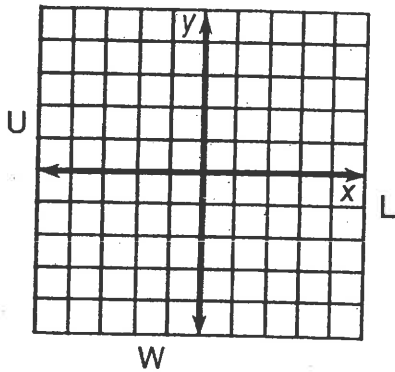
② $x = 4$



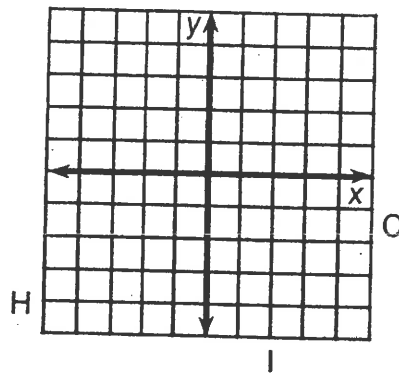
③ $2x - 3y = 9$



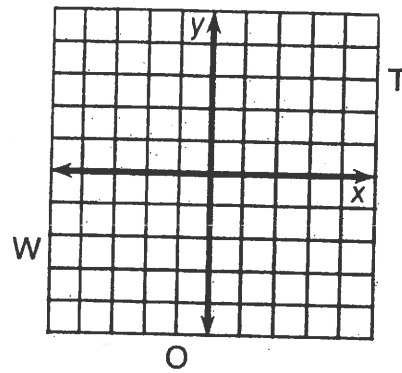
④ $x + 2y - 4 = 0$



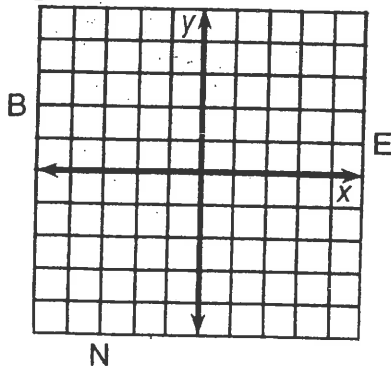
⑤ $3x + 4y = 12$



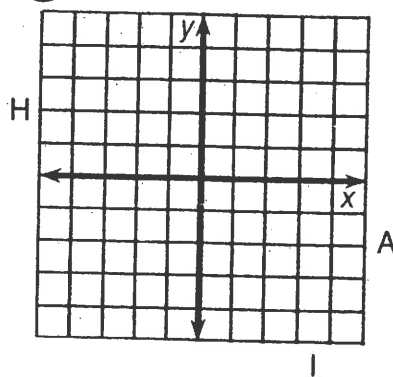
⑥ $6x - 5y + 20 = 0$



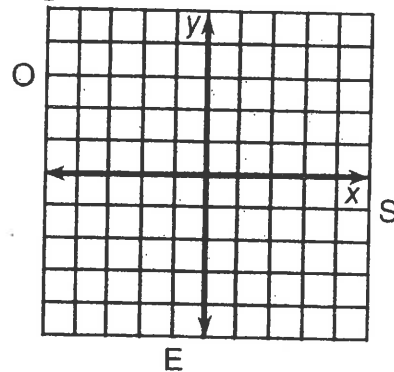
⑦ $x + 3 = 0$



⑧ $2x - 7 = 0$



⑨ $-2x = 2y + 5$

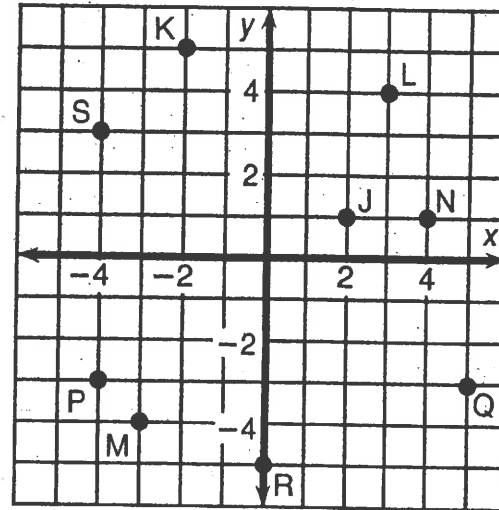
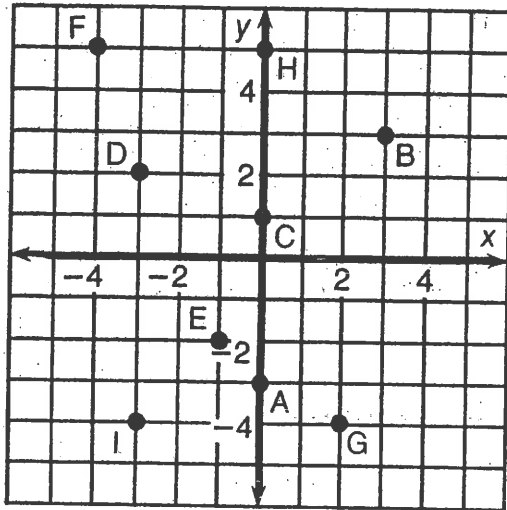


CSIHOWEHOFANDAPLBOIULFGMSIPTOWEIERN

Answer:

What Did the Ape Think of the Grape's House?

For each exercise, draw the line indicated and write its equation. Find your answer in the answer section and notice the two letters next to it. Print these letters in the two boxes at the bottom of the page that contain the number of that exercise.



- ① Equation of \overleftrightarrow{AB} _____
- ② Equation of \overleftrightarrow{CB} _____
- ③ Equation of \overleftrightarrow{DE} _____
- ④ Equation of \overleftrightarrow{FG} _____
- ⑤ Equation of \overleftrightarrow{HI} _____

- ⑥ Equation of \overleftrightarrow{JK} _____
- ⑦ Equation of \overleftrightarrow{LM} _____
- ⑧ Equation of \overleftrightarrow{NS} _____
- ⑨ Equation of \overleftrightarrow{PQ} _____
- ⑩ Equation of \overleftrightarrow{RQ} _____

Answers:

- | | | |
|------------------------------|------------------------------|-----------------------------|
| ① DE $y = -\frac{1}{4}x + 2$ | ⑥ TT $y = \frac{2}{5}x$ | ⑩ EA $y = -2x + 3$ |
| ② SA $y = \frac{4}{3}x - 1$ | ⑦ NE $y = \frac{2}{3}x + 1$ | ⑨ VI $y = \frac{2}{5}x - 5$ |
| ③ TH $y = -\frac{3}{2}x + 2$ | ⑧ OU $y = -x + 3$ | ⑧ TH $y = -2x - 4$ |
| ④ AS $y = 2x - 3$ | ⑤ GH $y = -\frac{3}{2}x - 1$ | ⑥ TI $y = \frac{4}{3}x$ |
| ⑤ HE $y = 3x + 5$ | ④ TW $y = -3$ | ④ SH $y = \frac{2}{3}x + 5$ |

5	5	3	3	6	6	4	4	7	7	9	9	1	1	8	8	10	10	2	2
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What Happened to the Computer Programmer?

Solve each problem below and find the solution in the answer column. Notice the letter next to it. Look for this letter in the string of letters near the bottom of the page and CROSS IT OUT each time it appears. When you finish, write the remaining letters in the rectangle at the bottom of the page.

- 1 How many liters of water must be added to 8 liters of a 40% acid solution to obtain a 10% acid solution?
- 2 How many liters of water must be added to 20 liters of a 70% antifreeze solution to produce a 50% solution?
- 3 Bunson Beaker has 150 grams of a 50% salt solution. How many grams of water must be added to obtain a 20% salt solution?
- 4 How much water must be added to 12 grams of a 90% iodine solution to produce a 25% iodine solution?
- 5 Moonshine has 50 liters of a 70% alcohol solution. How many liters of pure alcohol must be added to obtain an 80% alcohol solution?
- 6 How many kilograms of pure salt must be added to 20 kilograms of a 10% salt solution to obtain a 25% salt solution?
- 7 How much pure acid must be added to 6 milliliters of a 5% acid solution to produce a 40% acid solution?

- (E) 22 l
- (S) 4 kg
- (A) 3.1 ml
- (U) 8 l
- (W) 32.5 g
- (M) 225 g
- (O) 3.5 ml
- (L) 24 l
- (D) 5 l
- (I) 25 l
- (T) 5.5 kg
- (R) 31.2 g
- (H) 240 g

R H L I E S I W O E M N O S T U D O L A M I T O A U R W M A S Y

Answer:

What Sound Did the Sheep Hear When Her Sister Exploded?



Solve each equation and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

① $\frac{2}{x+3} + \frac{3}{x+4} = \frac{7}{x^2 + 7x + 12}$

② $\frac{4}{x-5} + \frac{1}{x+2} = \frac{2x+7}{x^2 - 3x - 10}$

③ $\frac{a-30}{a^2 + 4a - 21} = \frac{5}{a+7} - \frac{2}{a-3}$

④ $\frac{x}{x+4} = \frac{3}{x-1}$

⑤ $\frac{6}{y+2} + \frac{1}{y-2} = 1$

⑥ $\frac{3}{n} + \frac{2}{n-1} = 2$

⑦ $2 = \frac{x}{x+3} - \frac{3}{x-5}$

⑧ $\frac{1}{d-7} + \frac{d}{d-2} = \frac{5}{d^2 - 9d + 14}$

⑨ $\frac{x-1}{x+1} - \frac{6}{x-3} = 3$

YE	SI	CK	SB	AM	SH	OO	FR	KO	MB	IG	UP	AH	ER
6, 1	-5, 2	-1	-9	-3, 1	$-\frac{1}{2}$	2, 8	-7, 3	-2	$\frac{1}{4}, -1$	$\frac{1}{2}, 3$	$\frac{4}{3}$	$\frac{1}{3}, 5$	6, -2

OBJECTIVE 3-h: To solve fractional equations (solving a quadratic equation may be required).

How Did the Hunter Get Hurt While Bending Over to Study Some Tracks?

Divide and write your answer as a polynomial or mixed expression. Cross out the box containing your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

- | | | |
|----------------------------------|----------------------------------|----------------------------------|
| ① $\frac{x^2 + 8x + 15}{x + 5}$ | ④ $\frac{x^2 - x + 12}{x - 6}$ | ⑦ $\frac{x^2 + 4}{x - 3}$ |
| ② $\frac{2x^2 + 3x - 14}{x - 2}$ | ⑤ $\frac{3x^2 - 5x - 11}{x + 1}$ | ⑧ $\frac{2x^2 - 3x - 1}{2x + 1}$ |
| ③ $\frac{x^2 - 5x + 8}{x - 3}$ | ⑥ $\frac{x^2 + 1 + 8x}{x + 4}$ | ⑨ $\frac{6x^2 - 7x + 5}{3x - 5}$ |

TH	HE	AT	ST	SH
$x - 2 + \frac{2}{x - 3}$	$x + 3 + \frac{13}{x - 3}$	$2x + 2 + \frac{6}{3x - 5}$	$x + 5 + \frac{42}{x - 6}$	$2x + 1 + \frac{10}{3x - 5}$
RA	SK	OT	IN	HI
$x - 3 + \frac{3}{2x + 1}$	$x + 3$	$x - 2 + \frac{1}{2x + 1}$	$3x - 6 - \frac{5}{x + 1}$	$x + 4 + \frac{9}{x - 3}$
BE	TH	HU	NT	IM
$3x - 8 - \frac{3}{x + 1}$	$x + 2 - \frac{11}{x + 4}$	$2x + 7$	$x + 4 - \frac{15}{x + 4}$	$x + 7 + \frac{33}{x - 6}$

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WHY ISN'T A SNOWMAN VERY SMART?

Express each difference below in simplest form. Find your answer and notice the letter next to it. Write this letter in each box containing the number of that exercise.

$$\textcircled{1} \frac{8}{x^2-4} - \frac{3}{x-2}$$

$$\textcircled{2} \frac{9}{x^2-2x-15} - \frac{2}{x+3}$$

$$\textcircled{3} \frac{7x}{x^2-9x+14} - \frac{4}{x-7}$$

$$\textcircled{4} \frac{3}{x-4} - \frac{x-9}{x^2-16}$$

$$\textcircled{5} \frac{5}{x+5} - \frac{2x+5}{x^2+9x+20}$$

$$\textcircled{6} \frac{3}{d-7} - \frac{2}{3d+1}$$

$$\textcircled{7} \frac{8}{5d+4} - \frac{1}{2d-3}$$

$$\textcircled{8} \frac{d+2}{4d-1} - \frac{7}{d+5}$$

$$\textcircled{9} \frac{d^2+3}{d^2-2d} - \frac{d-4}{d}$$

$$\textcircled{10} \frac{d^2-11}{d^2-7d+12} - \frac{d+1}{d-4}$$

Answers:

$$\textcircled{L} \frac{3x}{x+5}$$

$$\textcircled{A} \frac{-2x+19}{(x+3)(x-5)}$$

$$\textcircled{I} \frac{3}{x+4}$$

$$\textcircled{U} \frac{2x+3}{(x-2)(x-7)}$$

$$\textcircled{O} \frac{-3x+2}{(x+2)(x-2)}$$

$$\textcircled{W} \frac{2x+21}{(x+4)(x-4)}$$

$$\textcircled{E} \frac{3x+8}{(x-2)(x-7)}$$

$$\textcircled{C} \frac{7x+11}{(x+3)(x-5)}$$

Answers:

$$\textcircled{Y} \frac{3d+8}{d(d-2)}$$

$$\textcircled{P} \frac{8d-15}{(5d+4)(2d-3)}$$

$$\textcircled{S} \frac{2}{d-3}$$

$$\textcircled{H} \frac{7d+17}{(d-7)(3d+1)}$$

$$\textcircled{N} \frac{d^2-21d+17}{(4d-1)(d+5)}$$

$$\textcircled{T} \frac{d^2-18d+4}{(4d-1)(d+5)}$$

$$\textcircled{R} \frac{6d-5}{d(d-2)}$$

$$\textcircled{B} \frac{11d-28}{(5d+4)(2d-3)}$$

6	3	6	2	10	10	8	1	4	7	9	2	5	8	10
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Why Did Orgo Take a Bath After Walking Through Mudsucker Swamp?



Express each sum below in simplest form. Find your answer and notice the letter next to it. Write this letter in each box at the bottom of the page that contains the number of that exercise.

① $\frac{5}{x} + \frac{2}{x^2}$

② $\frac{3}{2x^2} + \frac{7}{6x}$

③ $\frac{1}{3x} + \frac{5}{4x^3}$

④ $\frac{-4}{x^3} + \frac{9}{x} + \frac{2}{x^2}$

⑤ $\frac{7}{10x^2} + \frac{1}{2x^3} + \frac{11}{5x}$

Answers:

Ⓤ $\frac{2x^2 + 5}{12x^3}$

Ⓑ $\frac{11x^2 + x + 15}{5x^3}$

Ⓢ $\frac{5x + 2}{x^2}$

Ⓔ $\frac{9x^2 + 2x - 4}{x^3}$

Ⓜ $\frac{22x^2 + 5x + 10}{10x^3}$

Ⓛ $\frac{22x^2 + 7x + 5}{10x^3}$

Ⓨ $\frac{7x + 9}{6x^2}$

Ⓒ $\frac{3x + 14}{6x^2}$

Ⓐ $\frac{4x^2 + 15}{12x^3}$

Ⓒ $\frac{9x^2 - 4x + 4}{x^3}$

⑥ $\frac{a + 4}{3a} + \frac{2a - 1}{5a^2}$

⑦ $\frac{a + 6}{4a^3} + \frac{4a + 3}{12a^2}$

⑧ $\frac{a - 4}{6a} + \frac{1}{3a^2} + \frac{7 - 3a}{9a^3}$

⑨ $\frac{3a + b}{ab^2} + \frac{5a - 2b}{a^2b}$

⑩ $\frac{2a + 2}{7a} + \frac{b - 9}{ab}$

Answers:

ⓗ $\frac{a^2 + 8a + 3}{3a^3}$

Ⓡ $\frac{3a^3 - 12a^2 + 14}{18a^3}$

Ⓟ $\frac{2a^2 + 21a - 3}{15a^2}$

Ⓝ $\frac{2ab + 15b - 63}{7ab}$

Ⓓ $\frac{3a^2 + 6ab - 2b^2}{a^2b^2}$

Ⓕ $\frac{a^2 + 5ab - 3b^2}{a^2b^2}$

Ⓚ $\frac{5a^2 + 26a - 3}{15a^2}$

Ⓣ $\frac{2ab + 9b - 63}{7ab}$

Ⓛ $\frac{2a^3 - 7a^2 + 8}{18a^3}$

Ⓦ $\frac{2a^2 + 3a + 9}{6a^3}$

5	10	7	3	1	3	9	5	8	10	2	10	8	4	6
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OBJECTIVE 1-c: To add algebraic fractions with unlike monomial denominators (including unlike powers).

What Unusual Accident Happened to Brainless Flunkalot?

Simplify each expression below. Find your answer and notice the letter next to it. Write this letter in each box containing the number of that exercise.



① $\frac{2}{5x} + \frac{7}{5x} + \frac{3}{5x}$

② $\frac{4}{2x} - \frac{5}{2x} + \frac{9}{2x}$

③ $\frac{8x}{x-4} + \frac{3x}{x-4}$

④ $\frac{x^2}{x-7} - \frac{49}{x-7}$

⑤ $\frac{x^2}{3x+15} - \frac{25}{3x+15}$

⑥ $\frac{x^2}{5x+40} + \frac{8x}{5x+40}$

⑦ $\frac{x+5}{9} + \frac{5x+7}{9}$

⑧ $\frac{4x+1}{4x} + \frac{6x-11}{4x}$

⑨ $\frac{x}{x^2+4x-21} + \frac{7}{x^2+4x-21}$

⑩ $\frac{3x}{x^2-9x+20} - \frac{12}{x^2-9x+20}$

⑪ $\frac{x^2}{x^2-4} + \frac{7x-18}{x^2-4}$

⑫ $\frac{2x^2-x}{(x-3)^2} - \frac{15}{(x-3)^2}$

⑲ $\frac{4}{x}$

⑳ $\frac{3(x+2)}{2x}$

㉑ $x+7$

㉒ $\frac{x-3}{x-5}$

㉓ $\frac{12}{5x}$

㉔ $\frac{2(x+2)}{3}$

㉕ $\frac{11x}{x-4}$

㉖ $\frac{2x+5}{x-3}$

㉗ $\frac{3}{x-5}$

㉘ $\frac{5(x-1)}{2x}$

㉙ $\frac{x-5}{3}$

㉚ $\frac{x+9}{x+2}$

㉛ $\frac{x}{5}$

㉜ $\frac{2x-1}{x-3}$

㉝ $\frac{1}{x-3}$

4	12	10	9	8	1	10	12	11	12	2	8	5	7	10	3	6
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What Happened to the Peanut Who Went Walking Late at Night?

Express each quotient below in simplest form. Find your answer in the answer column and notice the letter next to it. Write this letter in each box containing the number of that exercise.

① $\frac{12m^2n^5}{m+5} \div \frac{3m^3n}{m^2-25}$

② $\frac{n^2-9n+20}{6m^7n^2} \div \frac{5n-20}{10mn^2}$

③ $\frac{m^2}{m^2-7m} \div \frac{1}{m^2-4m-21}$

④ $\frac{16-2m}{m^2+2m-24} \div \frac{m-8}{3m+18}$

⑤ $\frac{12n-36}{9-n^2} \div \frac{8n^5}{n^2+3n}$

⑥ $\frac{m^2-n^2}{m^2+2mn+n^2} \div \frac{m^2n-mn^2}{7m^2}$

⑦ $\frac{n^2-n-12}{2n^2-15n+18} \div \frac{3n^2-12n}{2n^3-9n^2}$

⑧ $\frac{17mn^3}{m^2+2m-35} \div \frac{34m^8n^4}{m^2+7m}$

⑨ $\frac{4n^3-25n}{3n^2-16n+5} \div (10n+25)$

Ⓜ $7m(m-n)$

Ⓝ $-3n^4(n-3)$

Ⓣ $m(m+3)$

ⓓ $-\frac{3}{2n^4}$

Ⓤ $\frac{4n^4(m-5)}{m}$

Ⓡ $\frac{1}{2m^4n(m-7)}$

Ⓢ $\frac{n(2n-9)(n+3)}{3(2n-3)(n-6)}$

Ⓡ $-\frac{6}{m-4}$

Ⓐ $\frac{n(2n-5)}{5(3n-1)(n-5)}$

Ⓦ $\frac{7m}{n(m+n)}$

Ⓛ $\frac{1}{2m^6n(m-5)}$

Ⓔ $\frac{n-5}{3m^6}$

4	3	6	9	7	9	7	7	9	1	8	3	2	5
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What Do You Call a Message Printed on a Lion With Chickenpox?



Express each product in simplest form. Find your answer below and notice the letter next to it. Write this letter in each box containing the number of that exercise.

① $\frac{x^3}{2y^2} \cdot \frac{6y^4}{xy}$

⑥ $\frac{13xy^2}{x^2 + 3x - 18} \cdot \frac{x^2 - 9}{26x^4y^2}$

② $\frac{5xy^2}{4x^2} \cdot \frac{8x^3y}{15y^5}$

⑦ $\frac{25 - x^2}{14x^3y^8} \cdot \frac{7x^2y}{8x + 40}$

③ $\frac{x^2 + 7x + 12}{x - 5} \cdot \frac{2x - 10}{x + 3}$

⑧ $\frac{2x^2 + 5x - 7}{x + 4} \cdot \frac{x^2 + 4x}{x^2 - 2x + 1}$

④ $\frac{x^2 - 3x - 10}{x + 7} \cdot \frac{3x + 21}{6x - 30}$

⑨ $\frac{2x + 10}{32 - 8x} \cdot \frac{x^2 - 10x + 24}{x^2 - x - 30}$

⑤ $\frac{x - 1}{4xy^3} \cdot \frac{6x^2y}{1 - x}$

⑩ $\frac{12x + 48}{6x - 15} \cdot \frac{4x^2 - 25}{x^2 + 9x + 20}$

Ⓒ $-\frac{3x}{2y^2}$

Ⓘ $\frac{4(2x + 5)}{x + 5}$

Ⓛ $\frac{x + 3}{2x^3(x + 6)}$

Ⓕ $-\frac{x - 4}{x + 4}$

Ⓗ $3x^2y$

Ⓣ $-\frac{1}{4}$

Ⓓ $\frac{2x^2}{3y^2}$

Ⓛ $\frac{x + 2}{2}$

Ⓔ $2(x + 4)$

Ⓝ $\frac{x(2x + 7)}{x - 1}$

Ⓢ $-\frac{x - 5}{16xy^7}$

Ⓐ $\frac{4(2x - 5)}{3(x + 4)}$

7	4	5	8	10	8	9	1	3	2	10	9	9	3	2	6	4	10	8
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CRYPTIC QUIZ

1. What do you call a skydiver with the flu?

3 12 6 11 9 11 2 10 8 5 1

2. How do you crash a houseboat party?

7 10 12 8 14 3 1 13 5 6 4

Simplify each expression below. Find your answer in the answer column and notice the letter next to it. Each time the exercise number appears in the code, write this letter above it.

- 1 $\frac{x+3}{9-x^2}$
- 2 $\frac{49-x^2}{x-7}$
- 3 $\frac{5x-20}{4-x}$
- 4 $\frac{-x^2+8x-12}{x-2}$
- 5 $\frac{x^2-2x-15}{10-2x}$
- 6 $\frac{-x^2+8x-16}{3x^2-12x}$
- 7 $\frac{-x^2-3x+10}{25-x^2}$

- (N) $-(x-6)$
- (H) $-(x+7)$
- (A) -5
- (O) $\frac{x+5}{x-2}$
- (J) $\frac{x-2}{x-5}$
- (R) $\frac{1}{x-3}$
- (L) $\frac{x-4}{6x}$
- (E) $\frac{x+3}{2}$
- (I) $\frac{x-4}{-3x}$

- 8 $\frac{6-5c-c^2}{7c^2-7}$
- 9 $\frac{-c^2+6c-9}{c^2+5c-24}$
- 10 $\frac{-10c^3-5c^2}{2c^2+15c+7}$
- 11 $\frac{c^2-d^2}{c+d}$
- 12 $\frac{-c^2+2cd+3d^2}{5c-15d}$
- 13 $\frac{c^2d+4cd^2}{-c^2+16d^2}$
- 14 $\frac{-3c^2+6cd}{-3c^2+7cd-2d^2}$
- (F) $-(c+2d)$
- (C) $c-d$
- (M) $c-2d$
- (K) $\frac{c-3}{c+8}$
- (B) $\frac{3c}{3c-d}$
- (S) $\frac{c+d}{5}$
- (T) $\frac{c+6}{7(c+1)}$
- (G) $\frac{cd}{c-4d}$
- (U) $\frac{5c^2}{c+7}$

Did You Hear About...

A	B	C	D	E	F	G
H	I	J	K	L	M	N
						?

Solve each equation below. Find the solution set in one of the answer columns and notice the word next to it. Write this word in the box above that contains the letter of that exercise.

$\{-8, 4\}$ WHO
$\{0, 15\}$ COACH
$\{\frac{8}{5}, 3\}$ SWIM
$\{7, 3\}$ THE
$\{-\frac{3}{5}, 3\}$ BECAUSE
$\{0, 11\}$ POLO
$\{-1, \frac{2}{3}\}$ WON
$\{-5, 1\}$ NOVICE
$\{-\frac{5}{2}, -\frac{3}{4}\}$ HORSE

- ~~~~~
- (A) $n^2 - 10n = -21$
 - (B) $x^2 + 4x = 5$
 - (C) $u^2 - 8 = 7u$
 - (D) $m^2 = 11m$
 - (E) $9a = -a^2 - 18$
 - (F) $h^2 = 32 - 4h$
 - (G) $3y^2 + 14y = 5$
 - (H) $2x^2 + 10 = 9x$
 - (I) $12t + 9 = 5t^2$
 - (J) $9y^2 = 16$
 - (K) $15 + 26d = -8d^2$
 - (L) $18n = 2n^2$
 - (M) $10v^2 = 13v + 3$
 - (N) $23p = 5p^2 + 24$

$\{-\frac{1}{5}, \frac{3}{2}\}$ NOT
$\{\frac{1}{3}, -5\}$ WAS
$\{\frac{1}{5}, -\frac{5}{2}\}$ SCORE
$\{8, -1\}$ WATER
$\{\frac{4}{5}, -6\}$ RUN
$\{0, 9\}$ COULD
$\{\frac{5}{2}, 2\}$ UPSET
$\{-6, -3\}$ PLAYER
$\{\frac{4}{3}, -\frac{4}{3}\}$ HIS

Did You Hear About...

A	B	C	D	E
F	G	H	I	J
K	L	M	N	???

Answers for A–G:

$(2b - 3)(r + 4)$ HUNTED
$(5c - d)(2c - d)$ WHEN
$(x + 3)(x - 2)$ THE
$(a + 2)(5a - 2)$ HE
$(x^2 + 1)(k + 4)$ BEAR
$(k^2 - 7)(x + 3)$ THE
$(a + 2)(2a + 5)$ MAN
$(k - 2)(x + 3)$ DEER
$(n - 5)(3n - 1)$ WHO
$(2b + 4)(r - 3)$ SHOT
$(5c - d)(2c + 4d)$ UNTIL



Factor each expression below. Find your answer in the appropriate answer column and notice the word beneath it. Write this word in the box containing the letter of that exercise. Keep working and you'll hear what's "bruin."

- (A) $x(x - 2) + 3(x - 2)$
- (B) $a(2a + 5) + 2(2a + 5)$
- (C) $n(3n - 1) - 5(3n - 1)$
- (D) $2b(r + 4) - 3(r + 4)$
- (E) $(x^2 + 1)k + (x^2 + 1)4$
- (F) $(5c - d)(2c) + (5c - d)(4d)$
- (G) $k^2(x + 3) - 7(x + 3)$
- (H) $w^2(3w - 1) + (3w - 1)$
- (I) $2d(5 - n^2) + (5 - n^2)$
- (J) $5t^2(t + 7) - (t + 7)$
- (K) $3u^2(u^2 + v^2) - v^2(u^2 + v^2)$
- (L) $(a - 2b)3a - (a - 2b)5b$
- (M) $6h(x^3 - 4) - (x^3 - 4)$
- (N) $(y^2 + 3)y^2 + 3(y^2 + 3)$

Answers for H–N:

$(6 - h)(x^3 - 4)$ MISS
$(5t^2 - 1)(t + 7)$ MADE
$(6h - 1)(x^3 - 4)$ ON
$(a - 2b)(5a + 3b)$ BEAR
$(2d + 1)(5 - n^2)$ RANGER
$(a - 2b)(3a - 5b)$ PUT
$(w^2 + 1)(3w - 1)$ FOREST
$(2d - 5)(5 - n^2)$ SHOOT
$(3u^2 - v^2)(u^2 + v^2)$ HIM
$(y^2 + 3)^2$ CLOTHES
$(u^2 + 3v^2)(u^2 + v^2)$ A

What Do You Call a Sore on a Police Officer's Foot?

Factor completely each polynomial below. Find your answer and notice the letter next to it. Write this letter in the box containing the number of that exercise.

① $3x^2 - 15x + 18$

② $x^3 + 11x^2 + 10x$

③ $8x^3 - 18x$

④ $5x^3 - 40x^2 + 60x$

⑤ $4x^2 + 8x - 60$

⑥ $2x^3 - 20x^2 - 48x$

Answers:

① $5x(x + 3)(x - 4)$

② $2x(2x + 3)(2x - 3)$

③ $2x(x + 6)(x - 4)$

④ $3(x - 2)(x - 3)$

⑤ $4(x + 5)(x - 3)$

⑥ $x(x + 5)(x + 3)$

⑦ $4(x + 5)(x - 1)$

⑧ $x(x + 10)(x + 1)$

⑨ $2x(x - 12)(x + 2)$

⑩ $5x(x - 2)(x - 6)$

⑪ $2x(4x + 9)(x + 1)$

⑦ $4m^2 - 18m + 14$

⑧ $15m^3 + 24m^2 + 9m$

⑨ $15m^2 - 10m - 25$

⑩ $50m^3 - 2m$

⑪ $3m^2 - 10m + 8$

⑫ $60m^3 + 54m^2 - 6m$

Answers:

⑦ $3m(5m + 3)(m + 1)$

⑧ $5(3m + 1)(m - 5)$

⑨ $(3m - 4)(m - 2)$

⑩ $2(2m + 1)(m + 7)$

⑪ $5(3m - 5)(m + 1)$

⑫ $6m(5m - 1)(2m - 1)$

⑬ $3m(5m + 2)(m - 1)$

⑭ $2(2m - 7)(m - 1)$

⑮ $2m(5m + 1)(5m - 1)$

⑯ $6m(10m - 1)(m + 1)$

⑰ $(3m - 2)(m + 4)$

5

8

11

7

1

3

9

6

2

12

4

10

When Is a Wrestler "King of the Ring"?

Factor each trinomial below. Find your answer and notice the letter next to it. Write this letter in the box containing the number of that exercise. Keep working and you will get the gripping answer to the title question.

- ① $n^2 + 6n + 5$
- ② $n^2 + 7n + 10$
- ③ $n^2 - 7n + 12$
- ④ $n^2 - 11n + 28$
- ⑤ $n^2 + 2n - 15$
- ⑥ $n^2 - 5n - 24$
- ⑦ $n^2 + n - 56$

Answers:

- Ⓕ $(n + 2)(n + 6)$
- Ⓗ $(n + 5)(n - 3)$
- Ⓦ $(n + 5)(n + 1)$
- Ⓔ $(n - 3)(n - 4)$
- Ⓑ $(n - 1)(n + 15)$
- Ⓢ $(n + 8)(n - 7)$
- Ⓗ $(n + 2)(n + 5)$
- Ⓔ $(n - 8)(n + 3)$
- Ⓡ $(n - 12)(n - 2)$
- Ⓝ $(n - 7)(n - 4)$

- ⑧ $t^2 + 10t + 16$
- ⑨ $t^2 - 15t + 50$
- ⑩ $t^2 + 8t - 9$
- ⑪ $t^2 - 7t - 30$
- ⑫ $t^2 - t - 30$
- ⑬ $t^2 + 14t + 48$
- ⑭ $t^2 + 8t - 48$

Answers:

- Ⓝ $(t - 6)(t + 5)$
- Ⓥ $(t - 25)(t + 2)$
- Ⓣ $(t - 5)(t - 10)$
- Ⓣ $(t + 6)(t + 8)$
- Ⓞ $(t - 10)(t + 3)$
- Ⓑ $(t + 15)(t - 2)$
- Ⓘ $(t + 8)(t + 2)$
- Ⓗ $(t - 4)(t + 12)$
- Ⓢ $(t + 9)(t - 1)$
- Ⓐ $(t - 24)(t + 2)$

- ⑮ $a^2 + 5ab + 6b^2$
- ⑯ $a^2 - 4ab - 21b^2$
- ⑰ $a^2 + 6ab - 7b^2$
- ⑱ $a^2 - 14ab - 32b^2$
- ⑲ $a^2 - 29ab + 100b^2$
- ⑳ $a^2 + 7ab - 18b^2$
- ㉑ $a^2 + 2ab + b^2$

Answers:

- Ⓚ $(a - 8b)(a + 4b)$
- Ⓗ $(a + 7b)(a - b)$
- Ⓐ $(a - 20b)(a + 5b)$
- Ⓔ $(a + 2b)(a + 3b)$
- Ⓦ $(a + 9b)(a - 2b)$
- Ⓣ $(a - 7b)(a + 3b)$
- Ⓞ $(a - 25b)(a - 4b)$
- Ⓢ $(a + 6b)(a + 3b)$
- Ⓝ $(a + b)(a + b)$
- Ⓡ $(a - 16b)(a + 2b)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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A DRASTIC WAY TO DIET



AN EXTREME BUT EFFECTIVE WAY TO DIET IS HIDDEN IN THE LETTERS BELOW.
TO FIND IT:

Factor each trinomial below. Find the factored form in the set of answers under the exercise and cross out the letter above it. When you finish, the diet will remain. You might call it the "Algebra diet."

- ① $m^2 + 8m + 7$
- ② $m^2 + 5m + 6$
- ③ $m^2 + 10m + 9$
- ④ $m^2 - 6m + 8$
- ⑤ $m^2 - 8m + 12$
- ⑥ $m^2 + 11m + 24$

- ⑦ $d^2 - 8d + 15$
- ⑧ $d^2 - 12d + 20$
- ⑨ $d^2 + 14d + 13$
- ⑩ $d^2 - 13d + 36$
- ⑪ $d^2 + 17d + 30$
- ⑫ $d^2 + 9d + 18$

- ⑬ $x^2 + 5xy + 4y^2$
- ⑭ $x^2 - 18xy + 32y^2$
- ⑮ $x^2 - 13xy + 40y^2$
- ⑯ $x^2 + 7xy + 12y^2$
- ⑰ $x^2 - 27xy + 26y^2$
- ⑱ $x^2 + 19xy + 60y^2$

G	E	B	A	S	U	T	O	Y	F	N	U	L	E	O	M	A	T	O	R	E	G	I	A	N	L	T
$(m - 2)(m - 4)$	$(m + 9)(m + 1)$	$(m + 8)(m + 1)$	$(m - 2)(m - 6)$	$(m + 7)(m + 1)$	$(m + 3)(m + 4)$	$(m + 2)(m + 3)$	$(m + 8)(m + 3)$	$(m - 2)(m - 8)$	$(d + 1)(d + 13)$	$(d + 2)(d + 9)$	$(d + 2)(d + 15)$	$(d - 5)(d - 3)$	$(d - 10)(d - 2)$	$(d - 2)(d - 18)$	$(d - 5)(d - 4)$	$(d - 4)(d - 9)$	$(d + 6)(d + 3)$	$(x - 16y)(x - 2y)$	$(x + 4y)(x + 15y)$	$(x + 2y)(x + 4y)$	$(x + y)(x + 4y)$	$(x + 4y)(x + 3y)$	$(x + 20y)(x + 3y)$	$(x - 5y)(x - 8y)$	$(x - 2y)(x - 13y)$	$(x - 26y)(x - y)$

What Happens If the Jolly Green Giant Steps on Your House?

For exercises in the first column, express each square as a trinomial. For the remaining exercises, factor each trinomial as the square of a binomial, if possible. (If this is not possible, the correct answer is "not possible.") Find your answer below. Write the letter of the exercise in the box containing the number of its answer.

Express as a trinomial:

- (E) $(u + 3)^2$
- (O) $(u - 8)^2$
- (S) $(2u + 5)^2$
- (L) $(1 - 4u)^2$
- (T) $(u + 2v)^2$
- (U) $(7u - 3v)^2$
- (O) $(uv + 6)^2$

Answers:

- (13) $4u^2 + 20u + 25$
- (3) $4u^2 + 16u + 25$
- (9) $u^2 + 6u + 9$
- (10) $u^2 + 4uv + 4v^2$
- (14) $49u^2 - 31uv + 9v^2$
- (6) $1 - 8u + 16u^2$
- (2) $u^2 - 16u + 64$
- (18) $u^2v^2 + 12uv + 36$
- (5) $u^2 + 7uv + 4v^2$
- (12) $49u^2 - 42uv + 9v^2$

Factor:

- (E) $t^2 + 4t + 4$
- (U) $t^2 - 12t + 36$
- (L) $t^2 - 18t + 81$
- (Y) $25 + 10t + t^2$
- (W) $4t^2 + 20t + 25$
- (S) $9t^2 - 12t + 4$
- (I) $t^2 + 10t + 20$

Answers:

- (5) not possible
- (7) $(t - 9)^2$
- (19) $(t - 12)^2$
- (4) $(2t + 5)^2$
- (15) $(t + 2)^2$
- (21) $(3t - 2)^2$
- (16) $(2t - 9)^2$
- (3) $(t - 6)^2$
- (1) $(5 + t)^2$
- (8) $(3t - 5)^2$

Factor:

- (D) $49a^2 + 14a + 1$
- (O) $16a^2 - 24a + 9$
- (G) $a^2 - 8a + 64$
- (M) $a^2 + 2ab + b^2$
- (H) $a^2 + 10ab + 25b^2$
- (R) $4a^2 - 12ab + 9b^2$
- (M) $100a^2 - 20ab + b^2$

Answers:

- (8) not possible
- (11) $(10a - 3b)^2$
- (16) $(7a + 1)^2$
- (11) $(10a - b)^2$
- (20) $(a + b)^2$
- (17) $(2a - 3b)^2$
- (19) $(4a - 3)^2$
- (20) $(a + 3b)^2$
- (14) $(a + 5b)^2$
- (19) $(4a - 8)^2$



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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Why Didn't Klutz Do Any Homework on Saturday?



Either multiply or factor, as directed, and find your answer in the adjacent answer column. Write the letter of that exercise in the box that contains the number of the answer.

Multiply:

- ① $(a + 5)(a - 5)$
- ④ $16a^2 - b^2$
- ② $(2 + 3a)(2 - 3a)$
- ⑬ $49a^2 - 1$
- ③ $(7a - 1)(7a + 1)$
- ⑥ $a^2 - 25$
- ④ $(a^2 - 6)(a^2 + 6)$
- ⑰ $4a^4 - 25b^2$
- ⑤ $(4a + b)(4a - b)$
- ⑮ $4 - 9a^2$
- ⑫ $4a^4 - 36$
- ① $(2a^2 - 5b)(2a^2 + 5b)$
- ⑳ $a^4 - 36$

Factor:

- ⑤ $x^2 - y^2$
- ③ $(9x + 10y)(9x - 10y)$
- ① $4x^2 - 49y^2$
- ② $(x + y)(x - y)$
- ③ $81x^2 - 100y^2$
- ⑦ $(x^2 + 20)(x^2 - 20)$
- ④ $36x^2 - 121y^2$
- ⑪ $(6x + 11y)(6x - 11y)$
- ⑥ $9x^2 - 64y^2$
- ⑫ $(3x + 7y)(3x - 7y)$
- ② $(2x + 7y)(2x - 7y)$
- ④ $x^4 - 400$
- ③ $(3x + 8y)(3x - 8y)$

Factor:

- ⑤ $n^2 - 49$
- ① $(2n + 3)(2n - 3)$
- ③ $n^2 - 1$
- ⑩ $(12 + 5n)(12 - 5n)$
- ⑧ $(n + 1)(n - 1)$
- ⑤ $(7n + 3)(7n - 3)$
- ② $(n + 7)(n - 7)$
- ⑧ $81 - n^2$
- ⑬ $(9 + n)(9 - n)$
- ④ $4n^2 - 9$
- ⑰ $(7n + 4)(7n - 4)$
- ① $49n^2 - 16$
- ② $144 - 25n^2$

Factor:

- ④ $a^6 - b^4$
- ⑲ $(4 + a^2b^3)(4 - a^2b^3)$
- ② $25a^8 - 9b^4$
- ⑭ $(2a^8 + 15)(2a^8 - 15)$
- ③ $a^2b^2 - 36$
- ⑪ $(a^3 + b^2)(a^3 - b^2)$
- ⑤ $16 - a^4b^6$
- ⑫ $(ab^2 + c^4)(ab^2 - c^4)$
- ⑥ $a^2b^4 - c^8$
- ⑨ $(ab + 6)(ab - 6)$
- ③ $4a^{16} - 225$
- ⑮ $(5a^4 + 3b^2)(5a^4 - 3b^2)$
- ⑩ $(4 + ab^4)(4 - ab^4)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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What Did the Girl Mushroom Say About the Boy Mushroom After Their First Date ?



For each exercise below, multiply the polynomial by the monomial. Find your answer in the set of answers under the exercise and notice the letter next to it. Write this letter in the box that contains the number of that exercise.



- ① $5(2n^2 + n)$
- ② $3n(8n^2 - 2n)$
- ③ $n^2(4n - 3)$
- ④ $-2n(4 + 5n^3)$
- ⑤ $-6n^2(4n^2 - 9)$

Answers:

- ⓑ $-24n^4 - 54n$
- Ⓣ $24n^3 - 4n$
- Ⓡ $-24n^4 + 54n^2$
- Ⓤ $4n^3 - 3n^2$
- Ⓢ $10n^2 + 5n$
- Ⓛ $24n^3 - 6n^2$
- Ⓞ $-8n - 6n^3$
- ⓐ $-8n - 10n^4$

- ⑥ $4a(a^2 - 2a + 3)$
- ⑦ $-2a^2(9 - a - 4a^2)$
- ⑧ $a^2b(a^2 - b^2)$
- ⑨ $-3ab^2(a^3b^2 - 2a^2b)$
- ⑩ $2ab(a^2 + 4ab - 3b^2)$

Answers:

- Ⓜ $4a^3 - 8a^2 + 10$
- ⓗ $-18a^2 + 2a^3 + 8a^4$
- ⓔ $2a^3b + 8a^2b^2 - 6ab^3$
- Ⓛ $2a^3b + 8ab^2 - 4ab$
- ⓐ $a^4b - a^2b^3$
- ⓖ $4a^3 - 8a^2 + 12a$
- Ⓦ $-18a^2 + 2a^3 + 6a^5$
- Ⓛ $-3a^4b^4 + 6a^3b^3$

- ⑪ $x^2y(2x^2 - 4xy + y^2)$
- ⑫ $-2xy^2(2x^4 - 5x^2y^2 - 3y^4)$
- ⑬ $4x^3y(-x^2y + 2xy - 5xy^2)$
- ⑭ $-x^2y^3(7xy^3 - x^2y^2 + 3x^3y)$
- ⑮ $3x^2y^2(2x^4y^2 - 3x^2y - 1)$

Answers:

- Ⓝ $-4x^5y^2 + 10x^3y^4 + 6xy^6$
- Ⓢ $2x^4y - 4x^2y^3 + x^2y^4$
- ⓔ $-4x^5y^2 + 8x^4y^2 - 20x^4y^3$
- Ⓤ $-4x^5y^2 + 10x^2y^4 - 20x^2y^3$
- Ⓨ $2x^4y - 4x^3y^2 + x^2y^3$
- ⓕ $6x^6y^4 - 9x^4y^3 - 3x^2y^2$
- Ⓣ $-7x^3y^6 + x^5y^4 - 3x^3y^4$
- Ⓛ $-7x^3y^6 + x^4y^5 - 3x^5y^4$

7	10	1	5	13	4	9	2	11	8	15	3	12	6	14
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WHY ARE MR. AND MRS. NUMBER SO HAPPY?

Find the simplest form for each expression below in the adjacent answer column. The letter of the exercise goes in the box that contains the number of the corresponding answer.

- (E) $x^3 \cdot x^4$ (19) $-3x^6$
(O) $3x^2 \cdot x$ (14) $3x^3$
(T) $2x^2 \cdot 3x$ (25) x^9
(I) $x \cdot x^2 \cdot x^3$ (7) x^7
(A) $x^4(-3x^2)$ (10) x^6
(H) $(-2x^2)(-2x)$ (2) $4x^3$
(E) $x(-x^4)(-x^4)$ (23) $6x^3$

- (T) $(u^2v)(-6uv^2)$
(E) $v(uv^2)(u^3v)$
(I) $(4uv)(-u)(2u^4v)$
(A) $(-3u^2)(-u^2v^2)(2uv)$
(L) $(-u^2)(-6u^2v^3)(-u^3v^4)$
(G) $(-2u)(u^2v)(4u^3v^3)$
(V) $(\frac{1}{2}u^2v^3)(2uv^4)$

- (21) $-8u^6v^4$
(3) u^4v^4
(12) $-8u^6v^2$
(17) u^3v^7
(5) $6u^5v^3$
(13) $-6u^3v^3$
(24) $-6u^7v^7$

- (R) $(ab^2)(a^2b)$ (18) $5a^6b^4$
(A) $(3ab)(2a^3b)$ (6) a^3b^3
(G) $ab(-4ab^3)$ (26) $12a^2b^8$
(E) $(-a^4b)(-5a^2b^3)$ (8) $-4a^2b^4$
(T) $(-2a^3b)(2ab^3)$ (11) $-12a^3b^7$
(N) $(6a^2b^2)(-2ab^5)$ (1) $-4a^4b^4$
(O) $(-4ab^4)(-3ab^4)$ (16) $6a^4b^2$

- (L) $(-b^2)(9a^2b^3)$
(Y) $(3a^2c)(-3bc^2)$
(E) $c(-ab)(a^2b^2c^2)$
(O) $(-3a^2c)(-3b^2c)$
(T) $(-ab)(-b^2c^2)(-a^2b^2)$
(H) $(a^2bc^2)(b^2c^3)(9a)$
(N) $(3b^2)(\frac{1}{3}abc)(-c)$



- (22) $-a^3b^5c^2$
(27) $-ab^3c^2$
(28) $-a^3b^3c^3$
(15) $9a^3b^3c^5$
(4) $-9a^2bc^3$
(20) $-9a^2b^5$
(9) $9a^2b^2c^2$

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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What Happened to the Guy Who Lost His Left Side?

Solve each problem and find your solution below. Cross out the box containing that solution. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

- ① The second of two numbers is 6 times the first. Their sum is 77. Find the numbers.
- ② The second of two numbers is 3 less than twice the first. Their sum is 36. Find the numbers.
- ③ The sum of two numbers is 84. The first is 9 more than 4 times the second. Find the first number.
- ④ The larger of two numbers is 1 less than 8 times the smaller. Their sum is 179. Find the numbers.
- ⑤ An 84-meter length of cable is cut so that one piece is 18 meters longer than the other. Find the length of each piece.
- ⑥ A bottle filled with water weighs 9.6 kilograms. If the water by itself weighs 5 times as much as the bottle, what is the weight of the bottle?
- ⑦ Andy's weight is 5 kilograms less than twice his brother's. Together they weigh 100 kilograms. What are their weights?
- ⑧ The sum of three numbers is 61. The second number is 5 times the first, while the third is 2 less than the first. Find the numbers.
- ⑨ The sum of three numbers is 84. The second number is twice the first, and the third is 4 more than the second. Find the numbers.
- ⑩ Together a chair, a table, and a lamp cost \$562. The chair costs 4 times as much as the lamp, and the table costs \$23 less than the chair. Find the cost of the table.
- ⑪ The sum of the angle measures of any triangle is 180° . Find the angle measures of a triangle if the second angle measures 10° less than twice the first, and the third angle measures 25° more than the second.

HI	HE	LP	LE	FT	SA	FT	FA	LL
35 kg, 65 kg	35 m, 49 m	11, 66	\$237	69	\$245	16, 32, 36	20, 159	$35^\circ, 55^\circ, 90^\circ$
VE	RI	DE	GH	AD	TN	GR	ES	OW
$35^\circ, 60^\circ, 85^\circ$	17, 34, 38	9, 45, 7	14, 22	1.6 kg	2.1 kg	33 m, 51 m	13, 23	37 kg, 63 kg
								

DID YOU HEAR ABOUT ...

A	B	C	D	E
F	G	H	I	J

Solve each problem below. Find your solution in the answer column and notice the word next to it. Write the word in the box above that contains the letter of that exercise. Keep working and you will hear about some "punny" business!

Answers:

- (A) The length of a rectangular field is 24 meters. This is 3 meters less than twice the width. Find the width.
- (B) The price of a television set on sale is \$360. This is two thirds of the regular price. Find the regular price.
- (C) Three fifths of the members of a hiking club went on the last hiking trip. If 39 people went on the trip, how many are in the club?
- (D) Matthew travels two and one-half miles to get to school. This is 3 times the distance that Jennifer travels. How far does Jennifer travel?
- (E) The diameter of a small pizza is 16 centimeters. This is 2 centimeters more than two fifths of the diameter of a large pizza. Find the diameter of the large pizza.
- (F) The width of a photograph is 4 centimeters more than three tenths of the length. If the width is 13 cm, find the length.
- (G) The heaviest human of all time weighed 486 kilograms. This is 12 kilograms less than 6 times Juan's weight. How much does Juan weigh?
- (H) The rainfall this year was 18.6 centimeters. This is 3.2 centimeters less than half of the rainfall last year. What was the rainfall last year?
- (I) The price of a brick today is 49¢. This is 3¢ less than 4 times the price 20 years ago. What was the price 20 years ago?
- (J) Rolex Smudgepot owns 17 ounces of gold. This is one ounce more than three fourths of the amount he owned last year. How much did he own last year?

_____ m	552 BOND
_____ \$	30 AND
_____ people	$21\frac{1}{3}$ STOCK
_____ mi	65 WHO
_____ cm	69 MARKET
_____ cm	35 HIMSELF
_____ kg	$1\frac{1}{2}$ BROKER
_____ cm	37 COMPANY
_____ kg	32 BUSINESS
_____ cm	13.5 THE
_____ cm	81 DOW
_____ kg	13 LAUGHING
_____ cm	83 BECAME
_____ cm	43.6 A
_____ cm	44.7 JONES
_____ ¢	540 COMEDIAN
_____ ¢	23 FUNNY
_____ oz	$\frac{5}{6}$ INCORPORATED
_____ oz	15 JOKE

What Were the Headlines After a 3 Foot 10 Inch Fortuneteller Escaped From Jail?



Solve each equation and find your solution below. Cross out the box containing that solution. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

① $3(2x + 5) = 39$

② $2(6k - 1) = -38$

③ $8(7 - y) = -24$

④ $-4(8 + 5n) = 8$

⑤ $6(3x - 5) - 7x = 25$

⑥ $-2(5 + 6m) + 16 = -90$

⑦ $15(t + 2) + 9t = 6$

⑧ $7w - 3(4w + 8) = 11$

⑨ $22 - 5(6v - 1) = -63$

⑩ $18x - (8x - 7) = 67$

⑪ $8(-2x - 4) + 12 = -52$

⑫ $2(9n - 1) + 7(n + 6) = -60$

⑬ $-3(3x + 15) - (10 + x) = 35$

⑭ $11(4 - 6y) + 5(13y + 1) = 9$

MID 5	THE -9	GET -1	SMA 12	SHA 2	RTF 40	AWA -3	LLM 35	AKE -7	EDI 15
TOR -2	UMA -14	PRI 6	UNJ 4	TLA -20	SON 3	AIL 10	CHA -4	RGE -12	TLE 8