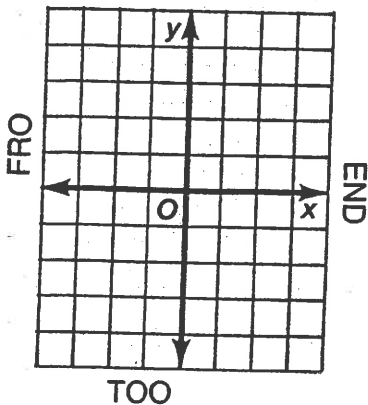


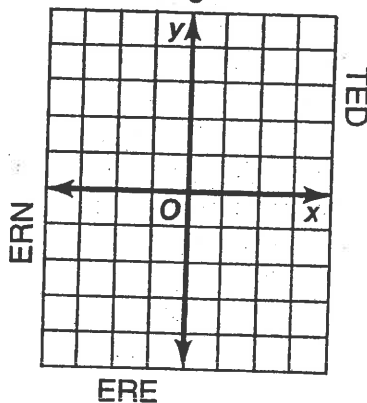
What Did the Toothless Old Termite Say When He Entered a Tavern ?

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.

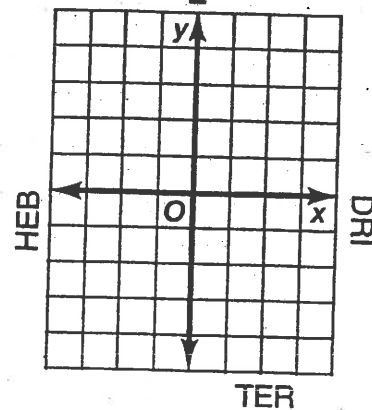
① $y \leq x - 1$
 $y \geq -3$



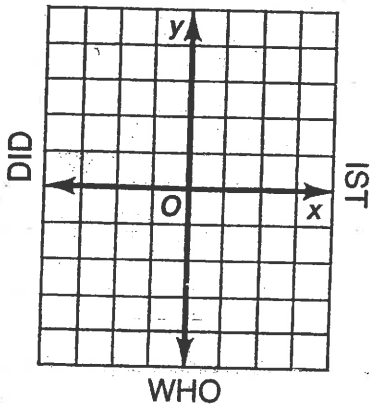
② $x \leq 2$
 $y \leq \frac{2}{3}x - 1$



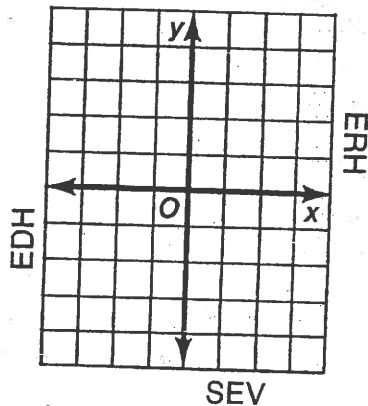
③ $y < -x + 1$
 $y > \frac{1}{2}x - 2$



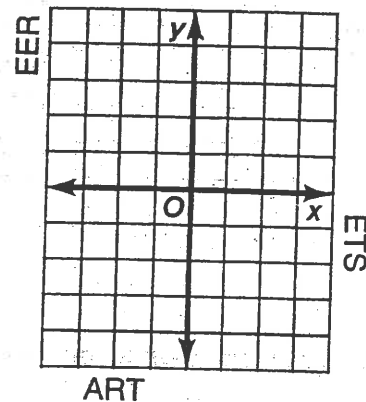
④ $y < x$
 $3x + 2y > 4$



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
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Why Does the President Put Vegetables in His Blender?

Solve each system of equations below by the substitution method. Find the solution in the nearest answer column 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.

Answers 1-6:

(4, 2)	LD
(6, -1)	NG
(1, 2)	TR
(4, 8)	HE
(1, -3)	HO
(6, -3)	NT
(5, 3)	FO
(9, 2)	PI
(7, 3)	TH
(5, 2)	IS

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

Answers 7-12:

$(\frac{1}{2}, -3)$	IN
$(8, -\frac{1}{2})$	VE
$(-\frac{1}{3}, \frac{4}{3})$	RL
(8, 0)	AS
(-3, 4)	TE
$(\frac{1}{2}, 7)$	HI
$(\frac{5}{2}, \frac{4}{3})$	LO
(-1, 4)	RW
$(\frac{5}{2}, -\frac{1}{2})$	PE
(-4, -3)	ED

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

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.

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

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

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

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

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

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

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

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

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

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

Answers:

Ⓕ $\frac{3x}{x + 5}$

Ⓐ $\frac{-2x + 19}{(x + 3)(x - 5)}$

Ⓘ $\frac{3}{x + 4}$

Ⓤ $\frac{2x + 3}{(x - 2)(x - 7)}$

Ⓞ $\frac{-3x + 2}{(x + 2)(x - 2)}$

Ⓦ $\frac{2x + 21}{(x + 4)(x - 4)}$

Ⓔ $\frac{3x + 8}{(x - 2)(x - 7)}$

Ⓒ $\frac{7x + 11}{(x + 3)(x - 5)}$

Answers:

Ⓨ $\frac{3d + 8}{d(d - 2)}$

Ⓟ $\frac{8d - 15}{(5d + 4)(2d - 3)}$

Ⓢ $\frac{2}{d - 3}$

Ⓗ $\frac{7d + 17}{(d - 7)(3d + 1)}$

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

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

Ⓡ $\frac{6d - 5}{d(d - 2)}$

Ⓑ $\frac{11d - 28}{(5d + 4)(2d - 3)}$

6	3	6	2	10	10	8	1	4	7	9	2	5	8	10
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Why Are Ancient Stories Like Feet?

Express each product below in simplest form. Find your answer in the answer column and notice the two letters next to it. Write these letters in the two boxes at the bottom of the page that contain the number of that exercise.

$$\textcircled{1} \frac{a^2 - b^2}{a^4 b} \cdot \frac{ab^2}{3a + 3b}$$

$$\textcircled{2} \frac{4 - a}{5a} \cdot \frac{a^2 + 5a}{a^2 + a - 20}$$

$$\textcircled{3} \frac{a^2 + 5ab + 6b^2}{a^2 - 5ab + 6b^2} \cdot \frac{10a - 30b}{5a + 10b}$$

$$\textcircled{4} \frac{3a^2 b - ab^2}{6a} \cdot \frac{9a^2}{9a^2 - b^2}$$

$$\textcircled{5} \frac{2a^2 - 13a + 15}{8a^2 - 12a} \cdot \frac{6a - 4a^2}{a^2 - 10a + 25}$$

$$\textcircled{6} \frac{-a^3 + ab^2}{a^2} \cdot \frac{a^3 + 7a^2 b}{a^2 + 6ab - 7b^2}$$

$$\textcircled{7} \frac{6a + 24}{2a^2 + 5a - 12} \cdot \frac{4a^2 - 9}{15a^2}$$

$$\textcircled{8} \frac{8a - 40}{40 - 3a - a^2} \cdot \frac{a - 8}{2a^2 - 8a}$$

$$\textcircled{9} \frac{27a^4 b^7}{3a^2 - 6a + 3} \cdot \frac{(a - 1)^3}{9ab^3}$$

$$\textcircled{\text{ES}} \quad 3a^3 b(a - 1)$$

$$\textcircled{\text{OT}} \quad -a(a + b)$$

$$\textcircled{\text{EG}} \quad a^3 b^4(a - 1)$$

$$\textcircled{\text{HL}} \quad \frac{3a^2 b}{2(3a + b)}$$

$$\textcircled{\text{EB}} \quad \frac{b(a - b)}{3a^3}$$

$$\textcircled{\text{TS}} \quad -\frac{4(a - 8)}{4a - 8}$$

$$\textcircled{\text{DS}} \quad -\frac{4(a - 8)}{a(a + 8)(a - 4)}$$

$$\textcircled{\text{TH}} \quad \frac{2(a + 3b)}{a - 2b}$$

$$\textcircled{\text{AR}} \quad \frac{2(2a + 3)}{5a^2}$$

$$\textcircled{\text{EN}} \quad -\frac{1}{5}$$

$$\textcircled{\text{EY}} \quad -\frac{2a - 3}{2(a - 5)}$$

3	3	5	5	7	7	1	1	6	6	4	4	9	9	2	2	8	8
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Why Is a Stick of Gum Like a Sneeze?

For each exercise, multiply the two polynomials. Find your answer in the set of answers under the exercise. Cross out the letter above your answer. When you finish, the answer to the title question will remain!

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

- 7 $(4a - 7)(3a - 2)$
- 8 $(2a + 5)(2a - 5)$
- 9 $(6a - 1)(2a + 4)$
- 10 $(a + 2b)(4a + b)$
- 11 $(5a + 3b)(a - 4b)$
- 12 $(3a - 8b)(2a - b)$

- 13 $(n + 2)(n^2 + 5n - 3)$
- 14 $(3n - 1)(2n^2 + 4n + 4)$
- 15 $(2n + 3)(6n^2 - 2n + 1)$
- 16 $(4n - 5)(n^2 - 7n - 2)$
- 17 $(3n - 4)(4n^2 + 2n + 3)$
- 18 $(n + 8)(6n^2 - n - 4)$

B	E	S	I	A	U	T	N	T	I	S	E	R	A	N	O	T	C	R	I	H	E	A	N	W	D
$x^2 - 7x - 8$	$x^2 + 8x + 15$	$6x^2 + 14x + 4$	$6x^2 + 7x + 4$	$x^2 - 9x + 18$	$x^2 + 11x + 18$	$x^2 - 13x + 18$	$2x^2 + 5x - 18$	$4a^2 + 9ab + 2b^2$	$6a^2 - 19ab + 8b^2$	$5a^2 - 11ab - 12b^2$	$12a^2 + 22a - 4$	$4a^2 - 25$	$4a^2 + 4ab + 3b^2$	$5a^2 - 17ab - 12b^2$	$12a^2 - 29a + 14$	$6n^3 + 47n^2 - 12n - 32$	$6n^3 + 44n^2 - 9n - 32$	$4n^3 - 33n^2 + 27n + 10$	$6n^3 + 10n^2 + 8n - 4$	$n^3 + 6n^2 + 9n - 6$	$12n^3 - 9n^2 - 2n - 12$	$12n^3 - 10n^2 + n - 12$	$n^3 + 7n^2 + 7n - 6$	$4n^3 - 30n^2 + 21n + 10$	$12n^3 + 14n^2 - 4n + 3$