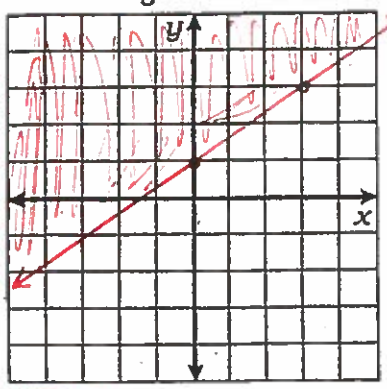
Algebra 2 Linear Inequalities Name:

Why Did the Plum Divorce the Grape?

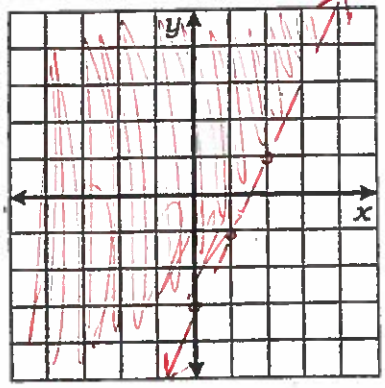
Graph each inequality. Under each grid are true-or-false statements describing the location of solutions. Circle the number-letter pair next to each TRUE statement. For these pairs, write the letter in the matching numbered box at the bottom of the page.

1. $y \geq \frac{2}{3}x + 1$



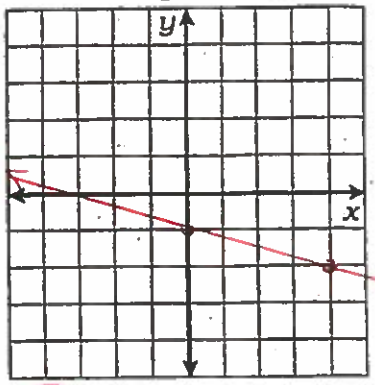
19·A Includes boundary line.
2·H Solutions in quadrant 1.
26·I Solutions in quadrant 2.
E Solutions in quadrant 3. ★
28·D Solutions in quadrant 4.

2. $y > 2x - 3$



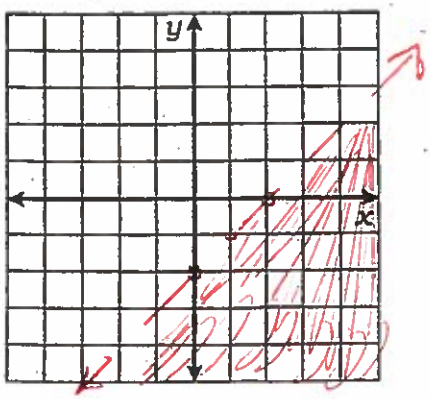
20·L Includes boundary line.
28·S Solutions in quadrant 1.
10·I Solutions in quadrant 2.
6·A Solutions in quadrant 3.
23·N Solutions in quadrant 4.

3. $y \leq -\frac{1}{4}x - 1$



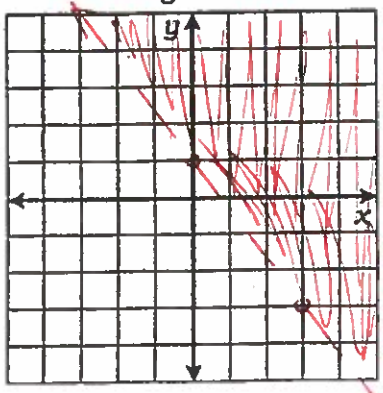
15·O Includes boundary line.
1·T Solutions in quadrant 1.
7·S Solutions in quadrant 2.
20·I Solutions in quadrant 3.
3·E Solutions in quadrant 4.

4. $y < x - 2$



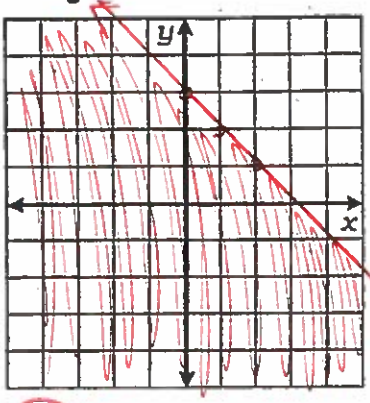
5·H Includes boundary line.
13·D Solutions in quadrant 1.
18·T Solutions in quadrant 2.
1·S Solutions in quadrant 3.
22·I Solutions in quadrant 4.

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



24·G Includes boundary line.
16·F Solutions in quadrant 1.
5·W Solutions in quadrant 2.
17·S Solutions in quadrant 3.
9·T Solutions in quadrant 4.

6. $y \leq -x + 3$



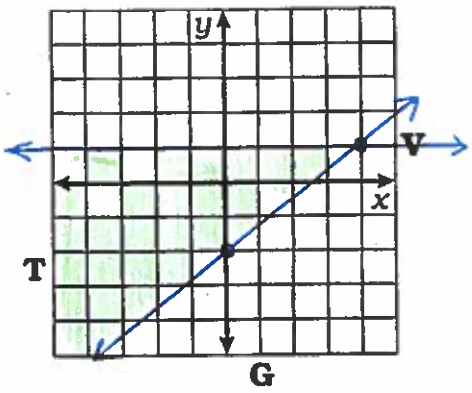
25·R Includes boundary line.
11·R Solutions in quadrant 1.
27·D Solutions in quadrant 2.
18·R Solutions in quadrant 3.
21·S Solutions in quadrant 4.

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
S	H	E		W	A	S		T	I	R	E	D		O	F		R	A	I	S	I	N		K	I	D	S

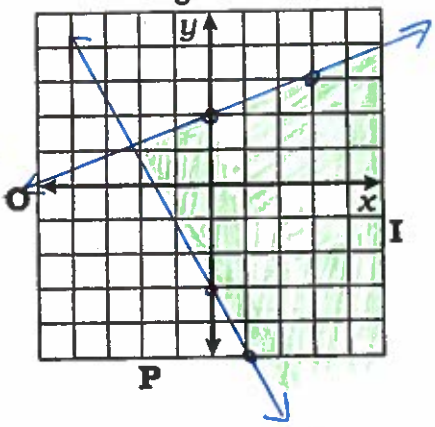
Which Member of Fred Ferd's Family Thinks He's a Pen?

Show the solution region for each system with crosshatching or shading. The crosshatching or shading, if extended, would cover a letter. Write this letter in each box with the exercise number.

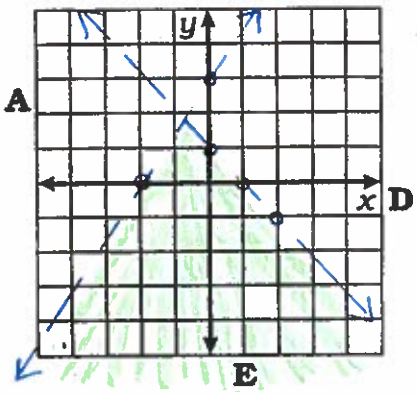
1. $y \geq \frac{3}{4}x - 2$
$y \leq 1$



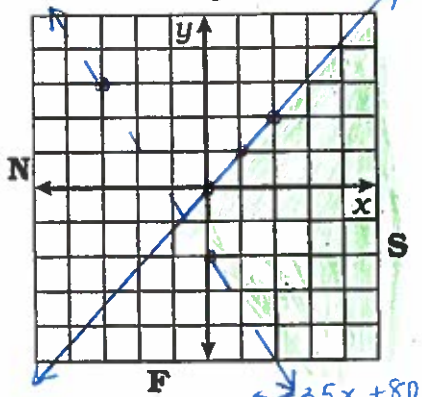
2. $y \geq -2x - 3$
$y \leq \frac{1}{3}x + 2$



3. $y < \frac{3}{2}x + 3$ backtrack slope
$y < -x + 1$

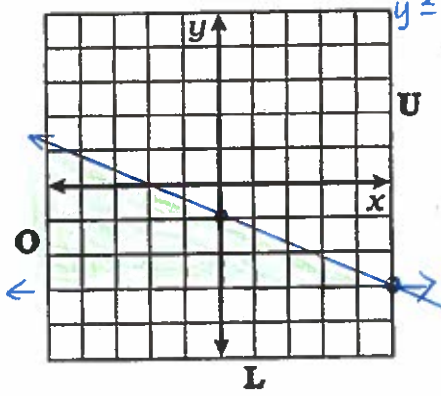


4. $y \leq x$
$5x + 3y > -6$
backtrack
$3y > -5x - 6$
$y > -\frac{5}{3}x - 2$

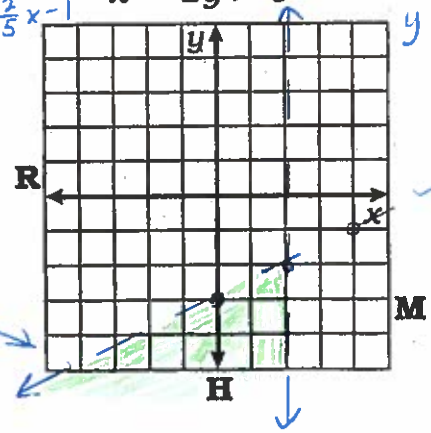


$-20y \leq 35x + 80$
$y \geq \frac{7}{4}x - 4$

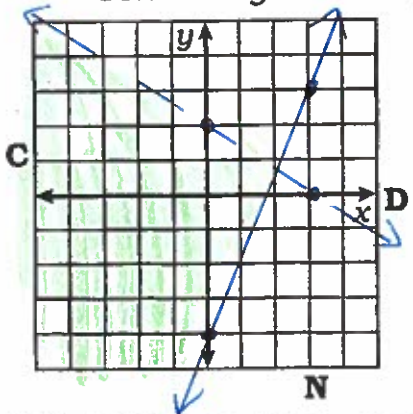
5. $y + 3 > 0$ $y > -3$
$-2x - 5y \geq 5$ $-5y \geq 2x + 5$
$y \leq -\frac{2}{5}x - 1$



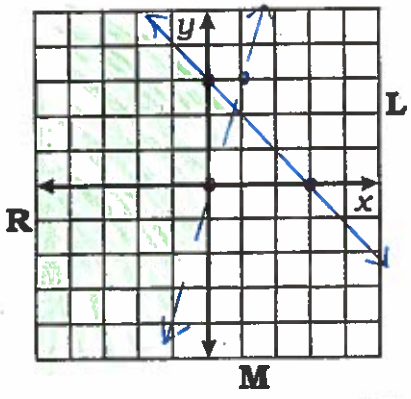
6. $x < 2$
$x - 2y > 6$
$-2y > -x + 6$
$y < \frac{1}{2}x - 3$



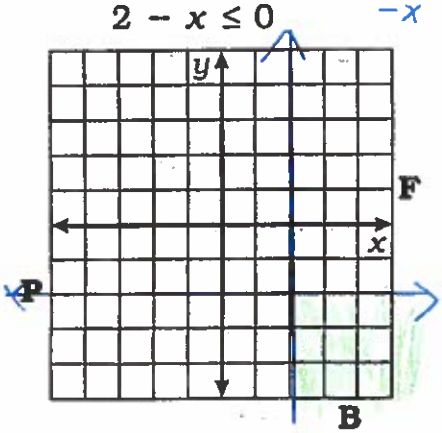
7. $8x + 12y < 24$
$35x - 20y \leq 80$



8. $10x + 10y \leq 30$
$y - 3x > 0$ $y > 3x$



9. $y + 2 \leq 0$ $y \leq -2$
$2 - x \leq 0$ $-x \leq -2$
$x \geq 2$



6	2	4	9	2	7	9	8	5	1	6	3	8
H	I	S	B	I	C	B	R	O	T	H	E	R