

**FILE NOW: FILING FEE AFTER MAY 1 IS \$225.00**

$$\frac{d}{dt} \left( \frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$$

1995

DOCUMENT # 212005

(3)

**JMAR, INC.**

M H HOLLINGSWORTH  
5050 EDGEWOOD COURT  
JACKSONVILLE FL 32205-3601

M H HOLLINGSWORTH  
5050 EDGEWOOD COURT  
JACKSONVILLE FL 32205-3601

|    |                   |    |                |
|----|-------------------|----|----------------|
| 21 | 2405 Ardson Place | 26 | P.O. BOX 10037 |
| 22 | #903A             | 27 |                |
| 23 | Tampa, Florida    | 28 | TAMPA, FL      |
| 24 | 33629             | 29 | 33679-0037     |
| 25 | USA               | 30 |                |

|            |            |
|------------|------------|
| 05/08/1958 | 04/05/1994 |
|------------|------------|

05/08/1958

04/05/1994

59-6077207

**\$8.75 Additional  
Fee Required**

6. For the Campaign Contribution  
Total Fund Contribution: [ ] \$5.00 May Be  
Added to Fees

7. The charge of the fee has been paid by the donor by [ ]  
[ ] Yes [ ] No

9. Name and Address of Current Registered Agent

SKELTON, H.J.  
5050 EDGEWOOD COURT  
JACKSONVILLE FL 32205

erdigon, Margaret H.

Address: 2311 Lila Lane

Tamp

**Fi**

100

11. Prove that the perimeter of a triangle is less than the sum of the radii of the three excircles. Let  $\Delta ABC$  be a triangle with side lengths  $a, b, c$  and semiperimeter  $s$ . The radius of the excircle opposite vertex  $A$  is  $r_a = \frac{\Delta}{s-a}$ , where  $\Delta$  is the area of the triangle. Similarly,  $r_b = \frac{\Delta}{s-b}$  and  $r_c = \frac{\Delta}{s-c}$ . The perimeter of the triangle is  $a+b+c$ . We need to show that  $a+b+c < r_a + r_b + r_c$ . This is equivalent to showing  $(s-a) + (s-b) + (s-c) < \frac{\Delta}{s-a} + \frac{\Delta}{s-b} + \frac{\Delta}{s-c}$ , which simplifies to  $3s < \Delta \left( \frac{1}{s-a} + \frac{1}{s-b} + \frac{1}{s-c} \right)$ . Using the inequality  $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} \geq \frac{9}{x+y+z}$  for positive  $x, y, z$ , we have  $\frac{1}{s-a} + \frac{1}{s-b} + \frac{1}{s-c} \geq \frac{9}{3s} = \frac{3}{s}$ . Therefore,  $\Delta \left( \frac{1}{s-a} + \frac{1}{s-b} + \frac{1}{s-c} \right) \geq \Delta \cdot \frac{3}{s} = 3 \cdot \frac{\Delta}{s} = 3r$ , where  $r$  is the inradius. Since  $3r < a+b+c$  (a known inequality), the result follows.

Signature: Margaret A. Serdops

X 4-26-95

|                                                                          |                                                                        |
|--------------------------------------------------------------------------|------------------------------------------------------------------------|
| 12.                                                                      | NAME: PD<br>HOLLINGSWORTH, MAX H<br>2405 ARDSON PLACE #803<br>TAMPA FL |
| NAME: SAT<br>BISHOP, G.P., JR.<br>5050 EDGEWOOD COURT<br>JACKSONVILLE FL |                                                                        |
| NAME: VT<br>SKELTON, H.J.<br>5050 EDGEWOOD COURT<br>JACKSONVILLE FL      |                                                                        |
| NAME: VD<br>HOLLINGSWORTH, IVY M<br>2405 ARDSON PLACE #803<br>TAMPA FL   |                                                                        |
| NAME: VAS<br>FRANCIS, H.D.<br>5050 EDGEWOOD COURT<br>JACKSONVILLE FL     |                                                                        |

| 13. | ADVERTISING, CIRCULATION, TELEPHONE, AND OTHER SERVICES |                                               |                                  |
|-----|---------------------------------------------------------|-----------------------------------------------|----------------------------------|
|     | PDC                                                     | <input checked="" type="checkbox"/> Telephone | <input type="checkbox"/> Address |
|     | Hollingsworth, Max H.                                   |                                               |                                  |
|     | 2405 Ardson Place, #903A                                |                                               |                                  |
|     | Tampa, Florida 33629                                    |                                               |                                  |
|     | VD                                                      | <input checked="" type="checkbox"/> Telephone | <input type="checkbox"/> Address |
|     | Hollingsworth, James R.                                 |                                               |                                  |
|     | 7528 Easton Road                                        |                                               |                                  |
|     | Ottsville, PA 18942                                     |                                               |                                  |
|     | VTSD                                                    | <input checked="" type="checkbox"/> Telephone | <input type="checkbox"/> Address |
|     | Perdigon, Margaret H.                                   |                                               |                                  |
|     | 2311 Lila Lane                                          |                                               |                                  |
|     | Tampa, FL 33629                                         |                                               |                                  |
|     | VD                                                      | <input checked="" type="checkbox"/> Telephone | <input type="checkbox"/> Address |
|     | Hollingsworth, Ivy M.                                   |                                               |                                  |
|     | 2405 Ardson Place, #903A                                |                                               |                                  |
|     | Tampa, Florida 33629                                    | <input checked="" type="checkbox"/> Telephone | <input type="checkbox"/> Address |
|     | D                                                       |                                               |                                  |
|     | Germany, John                                           |                                               |                                  |
|     | 400 N. Ashley Drive, suite 2300                         |                                               |                                  |
|     | Tampa, Florida 33602                                    | <input type="checkbox"/> Telephone            | <input type="checkbox"/> Address |

[illegible]**SIGNATURE:**

SIGNATURE AND TYPED OR PRINTED NAME OF ISSUING OFFICIAL OR DIRECTOR

X 4-26-95

[illegible]