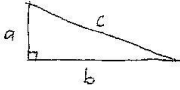GEOM.
REVIEW FOR PYTHAGOREAN THM. TEST (4.4 + 4.5)

NAME __KEY__
DATE _____ PER. ____

IS THE EQUATION TRUE OR FALSE?
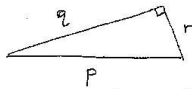
①

$a^2 + b^2 = c^2$
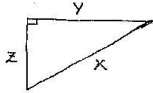TRUE

②

$p^2 + q^2 = r^2$
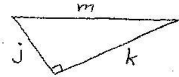FALSE

③

$$z^2 = x^2 - y^2$$
$$\underline{+y^2 \qquad\qquad +y^2}$$
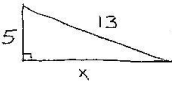$$z^2 + y^2 = x^2 \quad \text{TRUE}$$

④

$(m)^2 = \left(\sqrt{j^2 + k^2}\right)^2$
$m^2 = j^2 + k^2$
TRUE

FIND THE LENGTH OF SIDE X. SIMPLIFY (DO NOT ROUND) YOUR ANSWERS. SHOW YOUR WORK.
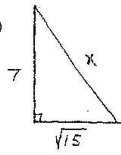
⑤

$5^2 + x^2 = 13^2$
$25 + x^2 = 169$
$\underline{-25 \qquad\quad -25}$
$x^2 = 144$
$\boxed{x = 12}$

⑥

$\sqrt{15}^2 + 7^2 = x^2$
$15 + 49 = x^2$
$64 = x^2$
$\boxed{8 = x}$

⑦
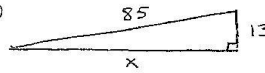
$13^2 + x^2 = 85^2$
$169 + x^2 = 7225$
$\underline{-169 \qquad\qquad -169}$
$x^2 = 7056$
$\boxed{x = 84}$

⑧
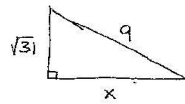
$\sqrt{31}^2 + x^2 = 9^2$
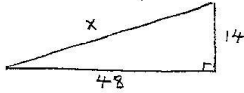$31 + x^2 = 81$
$\underline{-31 \qquad\qquad -31}$
$x^2 = 50$
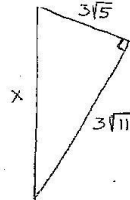$x = \sqrt{50}$
$x = \sqrt{25 \cdot 2}$
$\boxed{x = 5\sqrt{2}}$

⑨

$14^2 + 48^2 = x^2$
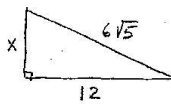$196 + 2304 = x^2$
$2500 = x^2$
$\boxed{50 = x}$

⑩

$(3\sqrt{5})^2 + (3\sqrt{11})^2 = x^2$
$45 + 99 = x^2$
$144 = x^2$
$\boxed{12 = x}$

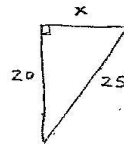⑪

$x^2 + 12^2 = (6\sqrt{5})^2$
$x^2 + 144 = 36 \cdot 5$
$x^2 + 144 = 180$
$\underline{\qquad -144 \quad -144}$
$x^2 \qquad = 36$
$\boxed{x = 6}$

⑫

$x^2 + 20^2 = 25^2$
$x^2 + 400 = 625$
$\underline{\quad -400 \quad -400}$
$x^2 \qquad = 225$
$\boxed{x = 15}$