

Pythagorean Inequality Theorem

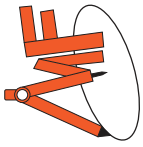
Name _____

Score _____

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Let a , b , and c are the sides of the triangle. c is the longest side of the triangle. Complete the table.

| a | b | c | a^2 | b^2 | $a^2 + b^2$ | c^2 | $a^2 + b^2 > c^2$ $a^2 + b^2 < c^2$ $a^2 + b^2 = c^2$ | Acute/Obtuse/Right Triangle |
|-------|-------|-------|-------|-------|-------------|-------|---|--------------------------------|
| 20 yd | 21 yd | 29 yd | | | | | | |
| 7 in | 8 in | 9 in | | | | | | |
| 10 ft | 11 ft | 16 ft | | | | | | |
| 19 yd | 13 yd | 22 yd | | | | | | |
| 12 in | 16 in | 24 in | | | | | | |
| 10 ft | 24 ft | 26 ft | | | | | | |



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Answer key

Let a , b , and c are the sides of the triangle. c is the longest side of the triangle. Complete the table.

| a | b | c | a^2 | b^2 | $a^2 + b^2$ | c^2 | $a^2 + b^2 > c^2$ $a^2 + b^2 < c^2$ $a^2 + b^2 = c^2$ | Acute/Obtuse/Right Triangle |
|-------|-------|-------|------------|------------|-------------|------------|---|-----------------------------|
| 20 yd | 21 yd | 29 yd | 400 | 441 | 841 | 841 | = | Right Triangle |
| 7 in | 8 in | 9 in | 49 | 64 | 113 | 81 | > | Acute Triangle |
| 10 ft | 11 ft | 16 ft | 100 | 121 | 221 | 256 | < | Obtuse Triangle |
| 19 yd | 13 yd | 22 yd | 361 | 169 | 530 | 484 | > | Acute Triangle |
| 12 in | 16 in | 24 in | 144 | 256 | 400 | 576 | < | Obtuse Triangle |
| 10 ft | 24 ft | 26 ft | 100 | 576 | 676 | 676 | = | Right Triangle |