**3.1 Right Triangle Geometry**

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 |  inside edges |  |  hypotenuselegs  |  |  |  |
| #1)Find a corner of a building that should be square. Mark off the lengths of the legs with the dimensions given and then measure the hypotenuse (column 3 in TABLE 1). Give your answer measurement to the nearest 1/8in.  |  |  |  |  |  |  |
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|  | TABLE 1 |  |
|  | leg (a) | leg (b) | hypotenuse (c)(measured) | hypotenuse (c)(calculated, can be done at home) |  |
|  | 2ft-6in | 3ft-6in | \_\_\_\_\_ft-\_\_\_\_\_in | \_\_\_\_\_ft-\_\_\_\_\_in |  |
|  | 3ft | 4ft | \_\_\_\_\_ft-\_\_\_\_\_in | \_\_\_\_\_ft-\_\_\_\_\_in |  |
|  | 80 in | 63 in | \_\_\_\_\_in | \_\_\_\_\_in |  |
|  | 5 ft | 6 ft | \_\_\_\_\_ft-\_\_\_\_\_in | \_\_\_\_\_ft-\_\_\_\_\_in |  |
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| **Pythagorean Theorem** | 𝑎2+𝑏2=𝑐2

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 |  | Works for every right triangle. |  |  |  |
|  |  |  |  |  |  |  |   c a  b  |  |  |
| #2) Use what we learned in Chapter 2 to: |  |  |  |  |  |
|  | solve for a | solve for b | solve for c |  |  |  |
|  |   |   |   |  |  |  |
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| #3) Use the theorem to "calculate" the hypotense. Fill in column 4 in TABLE 1 to the nearest 1/8in. |  |
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| #4) Measure the missing lengths and fill in TABLE 2A to the nearest 1/8in. |  |  |  |
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|  | TABLE 2A - MEASURED |  |  |  |
|  | leg (a) | leg (b) | hypotenuse |  |  |  |
|  | 4ft | \_\_\_\_\_ft-\_\_\_\_\_in | 72 in |  |  |  |
|  | \_\_\_\_\_ft-\_\_\_\_\_in | 3ft-2in | 5 ft 8 in |  |  |  |
|  | 90in | \_\_\_\_\_in | 122 in |  |  |  |
|  | \_\_\_\_\_in | 45in | 4 ft 9 in |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| #5) Calculate the missing lengths and fill in TABLE 2A to the nearest 1/8in. |  |  |  |
|  | TABLE 2A – CALCULATED |  |  |  |
|  | leg (a) | leg (b) | hypotenuse |  |  |  |
|  | 4ft | \_\_\_\_\_ft-\_\_\_\_\_in | 72 in |  |  |  |
|  | \_\_\_\_\_ft-\_\_\_\_\_in | 3ft-2in | 5 ft 8 in |  |  |  |
|  | 90in | \_\_\_\_\_in | 122 in |  |  |  |
|  | \_\_\_\_\_in | 45in | 4 ft 9 in |  |  |  |
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