I. Sketch the diagram and write a full solution.

1. The triangle contains the right angle and the segment which is the altitude to the hypotenuse . If BA = 20cm and AT = 25cm, what are the lengths of ?

2. Triangle has a right angle with vertex A, as well as the altitude to the hypotenuse . If AE = 6in, CE = 3in, and ER = (5m-3) in, solve for the value of m and the lengths of

3. In , is a right angle and is the altitude to the hypotenuse . If AY = 20cm, RY = (n+1) cm, PR = (n-2) cm, and RA = 2 (n-3) cm, solve for n, .

4. The triangle contains the right angle and the segment which is the altitude to the hypotenuse . If SA = 20cm and SR = 10cm, what are the lengths of ?

II. For each item, let a and b be the lengths of the legs and c be the length of the hypotenuse of a right triangle. Solve for the measure of the missing side.

1. a = 3, b = 7
2. a = 5, b = 9
3. a = 6, c = 10
4. b = 4, c = 5
5. a = 6, c = 24

III. Find the missing side lengths. Leave your answers as radicals in simplest form.

45

3

a

b

1.

45

y

x

2.

60

v

u

8

3.

30

x

12

y

4.

45

m

7

n

5.