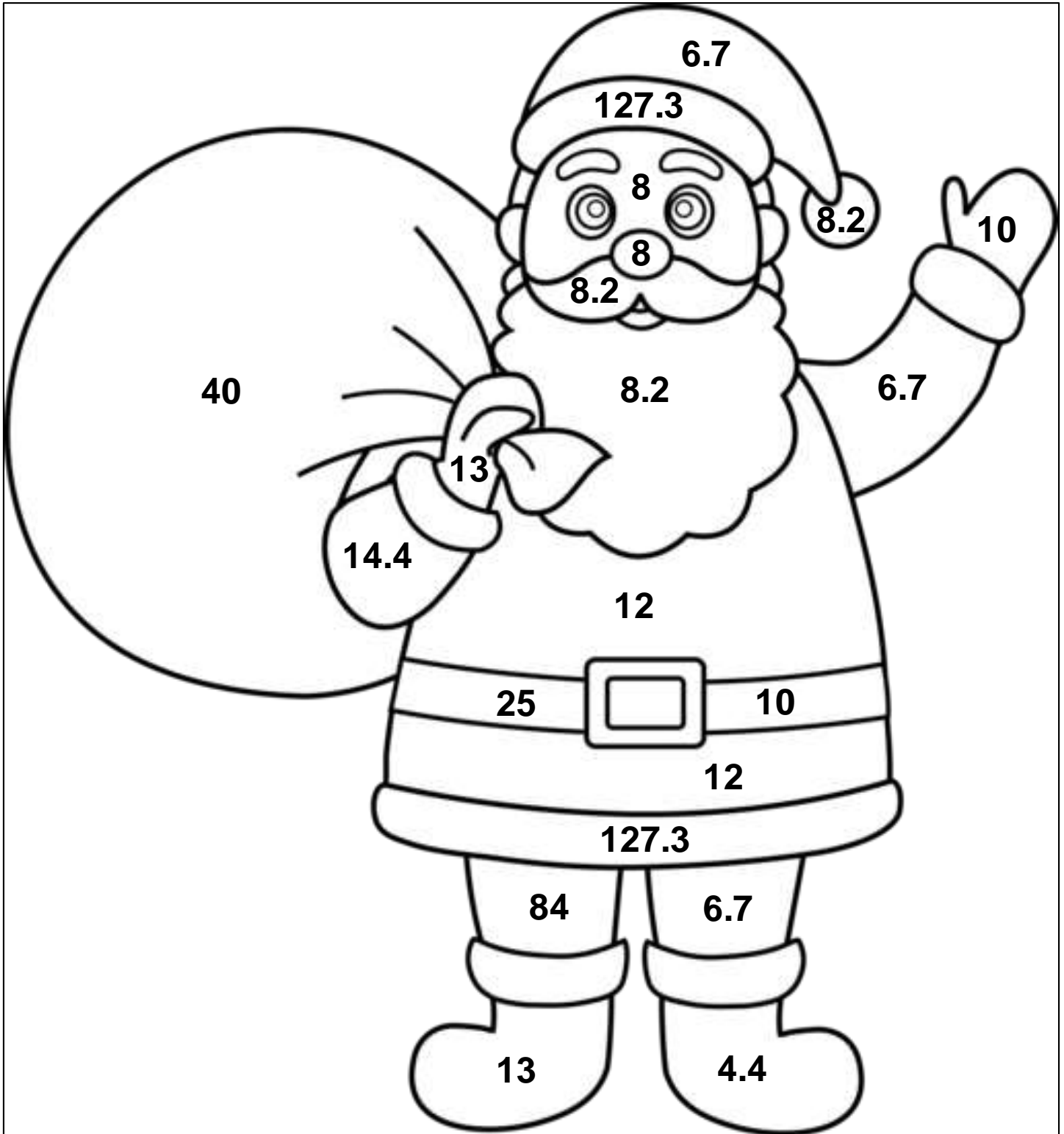


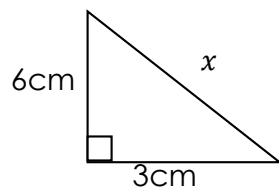
Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

# COLOR BY CODES THE PYTHAGOREAN THEOREM AND ITS CONVERSE

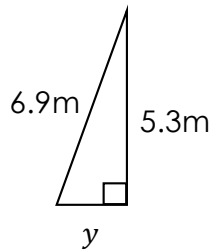


**Answer the questions - find your answer on Santa-Claus - color according to your answers.**

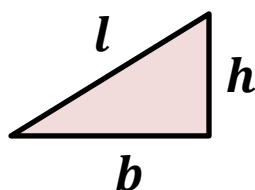
1. If  $c$  is the hypotenuse of the right triangle ABC with sides  $a$ ,  $b$ ,  $c$  and  $a = 12$ ,  $b = 5$ , then  $c =$  \_\_\_\_\_. **(BLACK)**
2. If  $c$  is the hypotenuse of the right triangle ABC with sides  $a$ ,  $b$ ,  $c$  and  $a = 15$ ,  $b = 20$ , then  $c =$  \_\_\_\_\_. **(BLACK)**
3. If  $c$  is the hypotenuse of the right triangle ABC with sides  $a$ ,  $b$ ,  $c$  and  $a = 15$ ,  $c = 17$ , then  $b =$  \_\_\_\_\_. **(LIGHT PINK)**
4. What is the value of  $x$  in the figure given below? Round the answer to the nearest tenth. **(RED)**



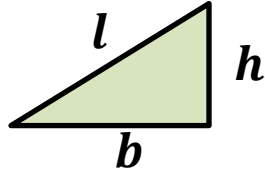
5. What is the value of  $y$  in the figure given below? Round the answer to the nearest tenth. **(BLACK)**



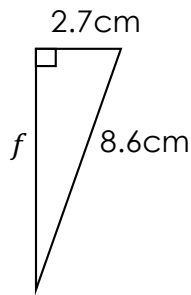
6. Find a 3<sup>rd</sup> number  $z$  such that 9, 41 and  $z$  make a right triangle. **(GREEN)**
7. Find a 3<sup>rd</sup> number  $h$  such that 13, 85 and  $b$  make a right triangle. **(RED)**
8. The slide at the playground has a height of 6 feet. The base of the slide measured on the ground is 8 feet. What is the length of the sliding board? **(BLACK)**



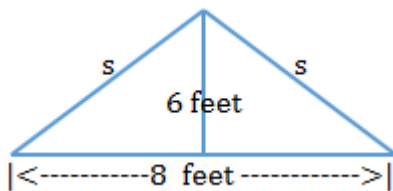
9. The bottom of a 13-foot straight ladder is set into the ground 5 feet away from a wall. When the top of the ladder is leaned against the wall, what is the distance above the ground it will reach? **(RED)**



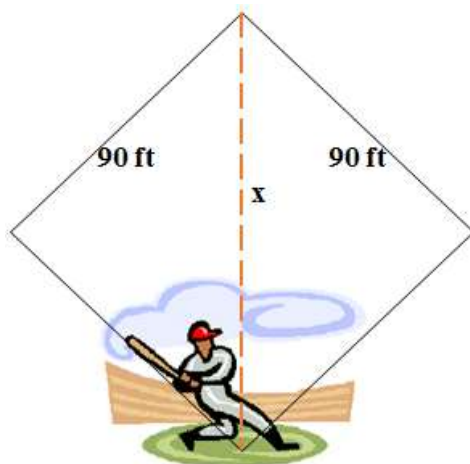
10. What is the value of  $f$  in the figure given below? Round the answer to the nearest tenth. **(WHITE)**



11. In the Old West, settlers made tents out of a piece of cloth thrown over a clothesline and then secured to the ground with stakes forming an isosceles triangle. How long would the cloth have to be so that the opening of the tent was 6 feet high and 8 feet wide? **(RED)**



12. A baseball diamond is a square with sides of 90 feet. What is the shortest distance, to the nearest tenth of a foot, between first base and third base? **(WHITE)**







**Answers:**

1. 13
2. 25
3. 8
4. 6.7
5. 4.4
6. 40
7. 84
8. 10
9. 12
10. 8.2
11. 14.4
12. 127.3