

MATH 5: HOMEWORK 15
DIFFERENCE OF SQUARES. SQUARE ROOT. PYTHAGOREAN THEOREM.

HOMEWORK

1. Find the following square roots. If you can not find the number exactly, at least say between which two whole numbers the answer is, e.g., between 5 and 6.

(a) $\sqrt{16}$

(b) $\sqrt{81}$

(c) $\sqrt{10,000}$

(d) $\sqrt{10^8}$

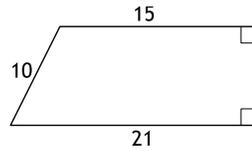
(e) $\sqrt{50}$

2. Can you find a right triangle where all sides are whole numbers and the hypotenuse is 13?

3. If, in a right triangle, one leg has length 1 and the hypotenuse has length 2, what is the other leg?

4. Find $\sqrt{2^6 \times 7^2}$; $\sqrt{\frac{1}{16}}$; $\sqrt{\frac{4}{9}}$;

5. Find the height and area of the figure below. Lengths of three sides are given; the two marked angles are right angles.



6. The side of an equilateral triangle is 1m. Find its height and the area.

7. Take some positive number $x < 100$ and using calculator (or computer) calculate the number $\frac{x}{2} + \frac{1}{x}$. Call the result x and repeat the same calculation with the new x . Do it 10 times. Then take the result and square it. What did you get? Try to do the same thing starting with different numbers. Is it surprising?