

Proof Exercises

$$36 \text{ in} = 1 \text{ yd}$$

$$9 \text{ in} = 0.25 \text{ yd} \quad (\text{divide both sides by 4});$$

$$\sqrt{9} \text{ in} = \sqrt{0.25} \text{ yd}$$

$$3 \text{ in} = 0.5 \text{ yd} \quad (\text{positive square root of both sides}).$$

Is it true that 3 inches equals a half a yard?

What is wrong with this “proof”?

Use the divisibility rule to show 3465 is divisible by 5.

Use the divisibility to show 458952 is divisible by 8.

Prove the divisibility rule for 9 using VWXYZ where V, W, X, Y, and Z represent digits.

Prove the divisibility rule for 11 using UVWXYZ where U, V, W, X, Y, and Z represent digits.

Over 300 proofs of the Pythagorean theorem have been listed (Loomis, 1963). Describe two Pythagorean proofs that are new to you.

Resources

Brumbaugh, D. K., Ortiz, E., Gresham, G. (2006). *Teaching Middle School Mathematics*. Mahwah, NJ: Lawrence Erlbaum Associates.

Brumbaugh, D., Rock, D. (2006 (3rd Ed.)). *Teaching Secondary Mathematics*. Mahwah, NJ: Lawrence Erlbaum Associates.

Brumbaugh, D., Rock, D. (2001). *Scratch Your Brain C1*. Pacific Grove, CA: Critical Thinking Books and Software.