

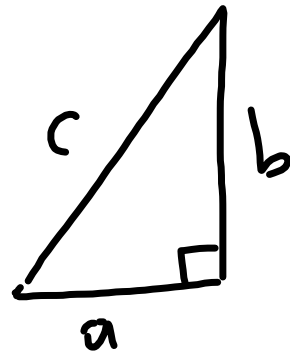
Rationalize the denominator  
of each:

$$\frac{2}{\sqrt{3}}$$

$$\frac{2\sqrt{3}}{\sqrt{6}}$$

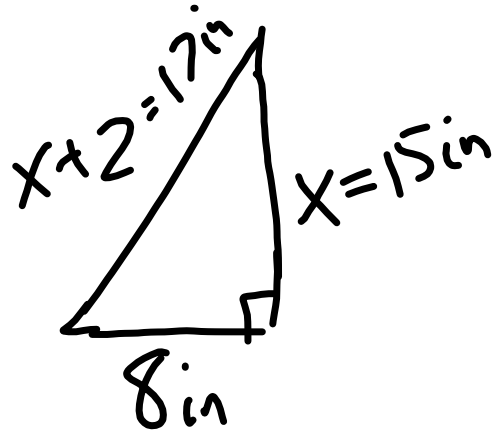
$$\frac{\sqrt{5}}{\sqrt{3}}$$

One leg of a right triangle is two inches less than the hypotenuse, and the other leg is 8 inches long. How long are the unknown sides?



$$a^2 + b^2 = c^2$$

$$\begin{aligned}8^2 + x^2 &= (x+2)^2 \\64 + x^2 &= (x+2)(x+2) \\64 + x^2 &= x^2 + 4x + 4 \\60 &= 4x \\15 &= x\end{aligned}$$



$$i^2 = -1 \quad \underline{\underline{\text{Fact}}}$$

$$(3i)(5i)$$

$$15i^2$$

$$-15$$

$$(3x)(5x)$$

$$15x^2$$

$$(3+2i) - (4-i)$$

$$3+2i-4+i$$

$$-1+3i$$

$3i$  imaginary number  
 $-1$  is a real numbers  
 $-1+3i$  is a complex number

$$(3+2i)(4-i) \quad a+bi$$

$$12 - 3i + 8i - 2i^2$$

$$12 + 5i + 2$$

$$14 + 5i$$

$$(3+2i)(3-2i)$$
$$9 - \cancel{6i} + \cancel{6i} - 4i^2$$

$$x^3 + y^3 = z^3$$

$$x^4 + y^4 = z^4$$

$$x^n + y^n = z^n$$

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$$a^2 + b^2 = c^2$$

$$3^2 + 4^2 = 5^2$$

$$5^2 + 12^2 = 13^2$$

$$8^2 + 15^2 = 17^2$$

3, 4, 5

5, 12, 13