

Math 5b: Classwork 25
Homework #25 is due May 6-th.

Review Exponents Properties/Rules:

1. $a^0 = 1$
2. $a^m \cdot a^n = a^{m+n}$
3. $a^m \div a^n = \frac{a^m}{a^n} = a^{m-n}$
4. $(ab)^n = a^n \cdot b^n$
5. $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$
6. $a^n = \frac{1}{a^{-n}}$
7. $(a^m)^n = a^{m \cdot n}$

Recall: Square root of a (denoted \sqrt{a} is a number whose square is equal to a . For example: square root of 25 is 5, because $5^2 = 25$.

We discussed that

$$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$$

$$\sqrt{a + b} \neq \sqrt{a} + \sqrt{b}$$

Square roots naturally appear in geometry:

Pythagorean Theorem: In a right triangle with legs a , b and hypotenuse c , one has

$$a^2 + b^2 = c^2 \quad \text{or} \quad c = \sqrt{a^2 + b^2}$$

MATH 5B HOMEWORK 25

April 29, 2018

1. Simplify:

$$(a) \left(\frac{5a^2b^5}{4a^3b^3}\right)^3 =$$

$$(b) (2z^2 \cdot 3z^3 \cdot z)^2 =$$

$$(c) \frac{(-ab)^8}{(ab)^2} =$$

$$(d) \left(\frac{3ab^3}{15b}\right)^2 \cdot \frac{75c}{a^2b^6} =$$

$$(d) \left(\frac{3a^5b^2}{21ab}\right)^2 \cdot \frac{7^4}{a^{16}b^2} =$$

2. Solve equations:

$$a) 7x = 2$$

$$b) 12x = 6$$

$$c) 7x = 14$$

$$d) 21x = 7$$

$$e) \frac{3}{8}x = \frac{1}{3}$$

$$f) \frac{11}{113}x = \frac{121}{3}$$

$$g) \frac{3}{4}(x + 8) = 10$$

$$h) \frac{1}{2}(x + 1) = x - 3$$

$$i) \frac{1}{2}x + \frac{1}{3}x = x - \frac{1}{12}$$

$$j) \frac{3x+2a}{2a-5x} = -1$$

3. Open parenthesis, simplify:

$$3a(b + ac) - c(3a^2 - 2) + 2ab =$$

$$2a(2a - 3) - 3(2a + 3) =$$

$$(2a - 3)(2a + 3) =$$

4. Simplify

$$\sqrt{\frac{4^2}{5^{10}}} =$$

$$\sqrt{12} =$$

5. Find legs....



Find the length of legs, if hypotenuse is 10?

