

PRE-ALGEBRA - Review 2, Lessons 8-14

Simplify each expression.

1. $\sqrt{49} = \pm 7$ 2. $\sqrt{x^2} = \pm x$ 3. $\frac{4}{\sqrt{36}} = \pm \frac{4}{6}$
 $= \boxed{\pm \frac{2}{3}}$

Simplify using order of operations PEMDAS.

4. $6^2 - 4(6-1) - 8 + 17 =$

$$36 - 20 - 8 + 17 = \underline{\underline{+25}}$$

5. $12 + 56 \div 7 - 4^2 = \underline{\underline{+4}}$

$$12 + 8 - 16$$

6. $(3 \times 8^2 - 4) + 13 =$

$$(3 \times 64 - 4) + 13 = (192 - 4) + 13 = 188 + 13 = \underline{\underline{201}}$$

7. $5(21-6)^2 + 4 \times 8 =$

$$5(15)^2 + 32 = 5(225) + 32 = \underline{\underline{1157}}$$

Solve.

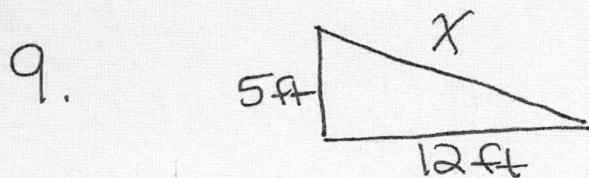
8. $4 - 10 + x - 12x = 7(x) - 2x + 30$

$$-11x - 6 = 5x + 30$$

$$-16x = 36$$

$$\boxed{x = \frac{-9}{4} = -2\frac{1}{4}}$$

Use Pythagorean theorem to solve for the unknown side.



$$5^2 + 12^2 = x^2$$

$$25 + 144 = x^2$$

$$\sqrt{169} = \sqrt{x^2}$$

$$\boxed{13 = x}$$

Divide. Change any improper fractions to a mixed number.

2/2

$$10. \frac{5}{6} \div \frac{5}{12} = \frac{5}{6} \times \frac{12}{5} = 2$$

$$11. \frac{2}{3} \div \frac{8}{9} = \frac{2}{3} \times \frac{9}{8} = \frac{3}{4}$$

Add or subtract. Reduce answers.

$$12. 4\frac{1}{8} + 2\frac{19}{24}$$
$$+ 3\frac{2}{3}$$

$$7\frac{19}{24}$$

$$13. 8\frac{2}{3} - 2\frac{2}{3}$$

$$6\frac{1}{3}$$

14. FOUR TIMES A NUMBER MINUS FIVE EQUALS SEVEN TIMES A NUMBER MINUS TWENTY-NINE. Write an equation and find the number.

$$4x - 5 = 7x - 29$$
$$-7x + 5 \quad -7x + 5$$

$$-3x = -24$$
$$\frac{-3x}{-3} = \frac{-24}{-3}$$

$$\underline{\underline{x = 8}}$$