

Solve each equation.

1) $4p - 1 = -14 + 4p - 2 - 5p$

2) $-7 - 2m + 5m = m + 5$

3) $2(7n - 4) = -120$

4) $2p - 3(5p + 2) = -84$

5) $-27 + 5b = 8b + 8(-4b - 7)$

6) $-8x - 24 = -4(2x + 8)$

7) $2(n + 2) = -8 + 6(n + 4)$

8) $7(-7r + 8) = 4 - (5 - 8r)$

9) $-\frac{9}{20} = \frac{6}{5}x - \frac{3}{2}x$

10) $-\frac{59}{12} = -2p + \frac{3}{2} - \frac{5}{3}p$

11) $\frac{5}{3} = -\frac{19}{8}n + \frac{29}{8}n$

12) $a + \frac{13}{4} + \frac{1}{3} = \frac{85}{12} + \frac{11}{4}a$

13) $\frac{5}{4}a - \frac{35}{8} = -\frac{47}{8} + \frac{1}{8}a + 1 - \frac{5}{8}$

14) $-8\left(-2x + \frac{7}{4}\right) = -126$

15) $-\frac{320}{3} = -\frac{3}{2}n + 8\left(2n + \frac{7}{6}\right)$

16) $-\frac{4}{3}\left(-\frac{3}{2}a + \frac{7}{4}\right) = \frac{1}{2}a + \frac{1}{15}$

Solve each proportion.

17) $\frac{8}{7} = \frac{4}{m}$

18) $\frac{5}{4v} = \frac{10}{8}$

$$19) \frac{10}{k} = -\frac{7}{3}$$

$$20) \frac{m+9}{8} = \frac{10}{2}$$

$$21) \frac{5}{7} = \frac{3}{b+5}$$

$$22) \frac{7}{5} = \frac{x+2}{2}$$

$$23) \frac{6}{3} = \frac{v+5}{v}$$

$$24) \frac{3k}{k-4} = \frac{6}{9}$$

$$25) \frac{3}{6} = \frac{n-9}{n-2}$$

$$26) \frac{2}{6} = \frac{7x-2}{x+1}$$

Find each product.

$$27) (v-6)(8v+3)$$

$$28) (5x+2)(7x-3)$$

$$29) (4x-4)(3x-8)$$

$$30) (p^2+3p+2)(-5p-7)$$

$$31) (3x+6)^2$$

$$32) (5x-8)^2$$

$$33) (8a+3)(8a-3)$$

$$34) (3+2m)(3-2m)$$

$$35) (7k-4)(7k+4)$$

$$36) (v+4)^2$$

Summer Assignment

Math Class & Teacher Last Year _____

Solve each system by substitution.

37) $x + 2y = -6$
 $-8x + 11y = -33$

38) $5x + 3y = 13$
 $9x + y = 19$

39) $-8x - 2y = 11$
 $4x + y = 3$

40) $5x + y = 24$
 $-4x - 5y = -15$

41) $-3x + 2y = 8$
 $-6x + 3y = 15$

42) $3x - 3y = -15$
 $-2x + 7y = 5$

Simplify.

43) $\sqrt{20}$

44) $\sqrt{147}$

45) $\sqrt[3]{54}$

46) $-3\sqrt{100}$

47) $3\sqrt{32}$

48) $4\sqrt{175}$

49) $-4\sqrt{72m^4n^4}$

50) $3\sqrt{28m^4n^3}$

51) $7\sqrt[3]{32x^6y^3}$

52) $-6\sqrt[3]{-250x^5y^8}$

53) $3\sqrt{54} - 2\sqrt{45} - 2\sqrt{24}$

54) $-2\sqrt{27} - 2\sqrt{12} + 2\sqrt{2}$

$$55) -3\sqrt{5} - 2\sqrt{20} + 3\sqrt{5}$$

$$56) \sqrt{3} \cdot -3\sqrt{6}$$

$$57) 3\sqrt{12} \cdot -2\sqrt{3}$$

$$58) \sqrt{6}(\sqrt{6} + 2)$$

$$59) 4\sqrt{7}(2\sqrt{10} + \sqrt{14})$$

$$60) (-\sqrt{3} + 4)(-5\sqrt{3} - 2)$$

Solve each equation by taking square roots.

$$61) 10x^2 + 1 = 641$$

$$62) 64b^2 - 3 = 78$$

$$63) 6 - 10r^2 = -14$$

$$64) -1 - 2n^2 = -121$$

Solve each equation by factoring.

$$65) x^2 - 2x = 15$$

$$66) 10p = -16 - p^2$$

$$67) -35 = -x^2 - 2x$$

$$68) 2x^2 + 14 = 16x$$

$$69) 4v^2 = 16 + 12v$$

$$70) 6m^2 - 3m - 10 = 5m^2$$

$$71) 42 - 44m = -6m^2 + 4m$$

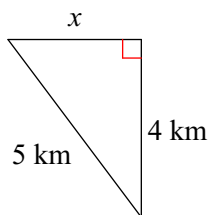
$$72) 6m^2 = -41m - 30$$

$$73) -2x^2 - 22x - 42 = -7x - 5x^2$$

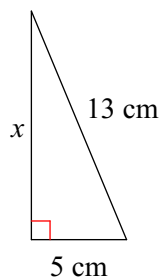
$$74) 6n^2 - 14n - 35 = 3n^2 - 2n + 1$$

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

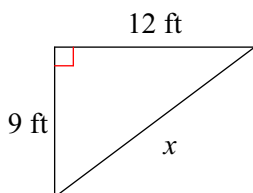
75)



76)

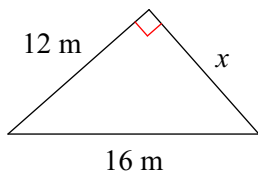


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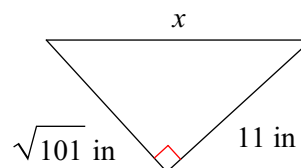


Find the missing side of each triangle. Leave your answers in simplest radical form.

78)



79)



Find the missing side of each right triangle. Side c is the hypotenuse. Sides a and b are the legs. Round your answers to the nearest tenth if necessary.

80) $a = 12$ mi, $c = 20$ mi

81) $a = 8$ m, $b = 15$ m

Find the missing side of each right triangle. Side c is the hypotenuse. Sides a and b are the legs. Leave your answers in simplest radical form.

82) $a = 6$ m, $b = 14$ m

83) $b = 3$ cm, $c = \sqrt{14}$ cm