Name: _____ **Date:** _____

Inverse operations: Answers

(1)
$$4(x+9) = 68$$
$$\frac{4(x+9)}{4} = \frac{68}{4}$$
$$x+9 = 17$$
$$x+9-9 = 17-9$$
$$x = 8$$

(2)
$$\frac{x}{3}+6 = 10$$
$$\frac{x}{3}+6-6 = 10-6$$
$$\frac{x}{3} = 4$$
$$\frac{x}{3}\times 3 = 4\times 3$$
$$x = 12$$

(3)
$$\frac{x+5}{10} = 8$$
$$\frac{x+5}{10}\times 10 = 8\times 10$$
$$x+5 = 80$$
$$x+5-5 = 80-5$$
$$x = 75$$

(4)
$$\frac{x+7}{6} = 9$$
$$\frac{x+7}{6}\times 6 = 9\times 6$$
$$x+7 = 54$$
$$x+7-7 = 54-7$$
$$x = 47$$

(5)
$$4x-7 = 33$$
$$4x-7+7 = 33+7$$
$$4x = 40$$
$$\frac{4x}{4} = \frac{40}{4}$$
$$x = 10$$

(6)
$$\frac{x+1}{7} = 5$$
$$\frac{x+1}{7}\times 7 = 5\times 7$$
$$x+1 = 35$$
$$x+1-1 = 35-1$$
$$x = 34$$

(7)
$$8x-6 = 10$$
$$8x-6+6 = 10+6$$
$$8x = 16$$
$$\frac{8x}{8} = \frac{16}{8}$$
$$x = 2$$

(8)
$$\frac{x}{5}-2 = 7$$
$$\frac{x}{5}-2+2 = 7+2$$
$$\frac{x}{5} = 9$$
$$\frac{x}{5}\times 5 = 9\times 5$$
$$x = 45$$

(9)
$$\frac{x+4}{10} = 10$$
$$\frac{x+4}{10}\times 10 = 10\times 10$$
$$x+4 = 100$$
$$x+4-4 = 100-4$$
$$x = 96$$

(10)
$$\frac{x-2}{8} = 8$$
$$\frac{x-2}{8}\times 8 = 8\times 8$$
$$x-2 = 64$$
$$x-2+2 = 64+2$$
$$x = 18$$

(11)
$$\frac{x}{7}+5=11$$
$$\frac{x}{7}+5-5=11-5$$
$$\frac{x}{7}=6$$
$$\frac{x}{7}\times 7=6\times 7$$
$$x=42$$

(12)
$$10(x-6)=30$$
$$\frac{10(x-6)}{10}=\frac{30}{10}$$
$$x-6=3$$
$$x-6+6=3+6$$
$$x=9$$

(13)
$$5x+6=26$$
$$5x+6-6=26-6$$
$$5x=20$$
$$\frac{5x}{5}=\frac{20}{5}$$
$$x=4$$

(14)
$$3(x-2)=3$$
$$\frac{3(x-2)}{3}=\frac{3}{3}$$
$$x-2=1$$
$$x-2+2=1+2$$
$$x=3$$

(15)
$$\frac{x}{8}+4=6$$
$$\frac{x}{8}+4-4=6-4$$
$$\frac{x}{8}=2$$
$$\frac{x}{8}\times 8=2\times 8$$
$$x=16$$

(16)
$$\frac{x-1}{8}=2$$
$$\frac{x-1}{8}\times 8=2\times 8$$
$$x-1=16$$
$$x-1+1=16+1$$
$$x=9$$

(17)
$$7x-3=25$$
$$7x-3+3=25+3$$
$$7x=28$$
$$\frac{7x}{7}=\frac{28}{7}$$
$$x=4$$

(18)
$$\frac{x+1}{6}=10$$
$$\frac{x+1}{6}\times 6=10\times 6$$
$$x+1=60$$
$$x+1-1=60-1$$
$$x=59$$

(19)
$$\frac{x}{9}-3=-1$$
$$\frac{x}{9}-3+3=-1+3$$
$$\frac{x}{9}=2$$
$$\frac{x}{9}\times 9=2\times 9$$
$$x=18$$

(20)
$$7(x-5)=14$$
$$\frac{7(x-5)}{7}=\frac{14}{7}$$
$$x-5=2$$
$$x-5+5=2+5$$
$$x=7$$

(21)
$$\frac{x-5}{5} = 2$$
$$\frac{x-5}{5} \times 5 = 2 \times 5$$
$$x - 5 = 10$$
$$x - 5 + 5 = 10 + 5$$
$$x = 30$$

(22)
$$8(x-2) = 8$$
$$\frac{8(x-2)}{8} = \frac{8}{8}$$
$$x - 2 = 1$$
$$x - 2 + 2 = 1 + 2$$
$$x = 3$$

(23)
$$\frac{x+3}{2} = 9$$
$$\frac{x+3}{2} \times 2 = 9 \times 2$$
$$x + 3 = 18$$
$$x + 3 - 3 = 18 - 3$$
$$x = 15$$

(24)
$$10x + 6 = 16$$
$$10x + 6 - 6 = 16 - 6$$
$$10x = 10$$
$$\frac{10x}{10} = \frac{10}{10}$$
$$x = 1$$

(25)
$$\frac{x}{10} + 10 = 15$$
$$\frac{x}{10} + 10 - 10 = 15 - 10$$
$$\frac{x}{10} = 5$$
$$\frac{x}{10} \times 10 = 5 \times 10$$
$$x = 50$$

(26)
$$\frac{x}{9} + 3 = 7$$
$$\frac{x}{9} + 3 - 3 = 7 - 3$$
$$\frac{x}{9} = 4$$
$$\frac{x}{9} \times 9 = 4 \times 9$$
$$x = 36$$

(27)
$$2(x+7) = 30$$
$$\frac{2(x+7)}{2} = \frac{30}{2}$$
$$x + 7 = 15$$
$$x + 7 - 7 = 15 - 7$$
$$x = 8$$

(28)
$$2x - 6 = 12$$
$$2x - 6 + 6 = 12 + 6$$
$$2x = 18$$
$$\frac{2x}{2} = \frac{18}{2}$$
$$x = 9$$

(29)
$$\frac{x-2}{5} = 4$$
$$\frac{x-2}{5} \times 5 = 4 \times 5$$
$$x - 2 = 20$$
$$x - 2 + 2 = 20 + 2$$
$$x = 12$$

(30)
$$\frac{x-8}{2} = 7$$
$$\frac{x-8}{2} \times 2 = 7 \times 2$$
$$x - 8 = 14$$
$$x - 8 + 8 = 14 + 8$$
$$x = 24$$

(31)
$$5(x-5) = -10$$
$$\frac{5(x-5)}{5} = \frac{-10}{5}$$
$$x-5 = -2$$
$$x-5+5 = -2+5$$
$$x = 3$$

(32)
$$\frac{x-4}{5} = 4$$
$$\frac{x-4}{5} \times 5 = 4 \times 5$$
$$x-4 = 20$$
$$x-4+4 = 20+4$$
$$x = 24$$

(33)
$$\frac{x}{6} + 10 = 15$$
$$\frac{x}{6} + 10 - 10 = 15 - 10$$
$$\frac{x}{6} = 5$$
$$\frac{x}{6} \times 6 = 5 \times 6$$
$$x = 30$$

(34)
$$\frac{x}{2} - 6 = -2$$
$$\frac{x}{2} - 6 + 6 = -2 + 6$$
$$\frac{x}{2} = 4$$
$$\frac{x}{2} \times 2 = 4 \times 2$$
$$x = 8$$

(35)
$$\frac{x}{5} - 4 = -1$$
$$\frac{x}{5} - 4 + 4 = -1 + 4$$
$$\frac{x}{5} = 3$$
$$\frac{x}{5} \times 5 = 3 \times 5$$
$$x = 15$$

(36)
$$\frac{x+2}{10} = 10$$
$$\frac{x+2}{10} \times 10 = 10 \times 10$$
$$x+2 = 100$$
$$x+2-2 = 100-2$$
$$x = 98$$

(37)
$$\frac{x+5}{7} = 10$$
$$\frac{x+5}{7} \times 7 = 10 \times 7$$
$$x+5 = 70$$
$$x+5-5 = 70-5$$
$$x = 65$$

(38)
$$\frac{x}{7} + 1 = 3$$
$$\frac{x}{7} + 1 - 1 = 3 - 1$$
$$\frac{x}{7} = 2$$
$$\frac{x}{7} \times 7 = 2 \times 7$$
$$x = 14$$

(39)
$$7(x+9) = 119$$
$$\frac{7(x+9)}{7} = \frac{119}{7}$$
$$x+9 = 17$$
$$x+9-9 = 17-9$$
$$x = 8$$

(40)
$$\frac{x+6}{3} = 10$$
$$\frac{x+6}{3} \times 3 = 10 \times 3$$
$$x+6 = 30$$
$$x+6-6 = 30-6$$
$$x = 24$$

(41)
$$9x - 4 = 77$$
$$9x - 4 + 4 = 77 + 4$$
$$9x = 81$$
$$\frac{9x}{9} = \frac{81}{9}$$
$$x = 9$$

(42)
$$4(x + 5) = 24$$
$$\frac{4(x + 5)}{4} = \frac{24}{4}$$
$$x + 5 = 6$$
$$x + 5 - 5 = 6 - 5$$
$$x = 1$$

(43)
$$\frac{x}{9} - 3 = 6$$
$$\frac{x}{9} - 3 + 3 = 6 + 3$$
$$\frac{x}{9} = 9$$
$$\frac{x}{9} \times 9 = 9 \times 9$$
$$x = 81$$

(44)
$$\frac{x}{9} - 4 = 6$$
$$\frac{x}{9} - 4 + 4 = 6 + 4$$
$$\frac{x}{9} = 10$$
$$\frac{x}{9} \times 9 = 10 \times 9$$
$$x = 90$$

(45)
$$\frac{x + 3}{2} = 3$$
$$\frac{x + 3}{2} \times 2 = 3 \times 2$$
$$x + 3 = 6$$
$$x + 3 - 3 = 6 - 3$$
$$x = 3$$

(46)
$$7x - 8 = -1$$
$$7x - 8 + 8 = -1 + 8$$
$$7x = 7$$
$$\frac{7x}{7} = \frac{7}{7}$$
$$x = 1$$

(47)
$$2x - 2 = 4$$
$$2x - 2 + 2 = 4 + 2$$
$$2x = 6$$
$$\frac{2x}{2} = \frac{6}{2}$$
$$x = 3$$

(48)
$$\frac{x + 1}{10} = 1$$
$$\frac{x + 1}{10} \times 10 = 1 \times 10$$
$$x + 1 = 10$$
$$x + 1 - 1 = 10 - 1$$
$$x = 9$$

(49)
$$2(x + 4) = 26$$
$$\frac{2(x + 4)}{2} = \frac{26}{2}$$
$$x + 4 = 13$$
$$x + 4 - 4 = 13 - 4$$
$$x = 9$$

(50)
$$\frac{x}{5} + 9 = 18$$
$$\frac{x}{5} + 9 - 9 = 18 - 9$$
$$\frac{x}{5} = 9$$
$$\frac{x}{5} \times 5 = 9 \times 5$$
$$x = 45$$

(51)
$$\frac{x+3}{4} = 6$$
$$\frac{x+3}{4} \times 4 = 6 \times 4$$
$$x + 3 = 24$$
$$x + 3 - 3 = 24 - 3$$
$$x = 21$$

(52)
$$9x - 4 = 5$$
$$9x - 4 + 4 = 5 + 4$$
$$9x = 9$$
$$\frac{9x}{9} = \frac{9}{9}$$
$$x = 1$$

(53)
$$\frac{x+3}{2} = 5$$
$$\frac{x+3}{2} \times 2 = 5 \times 2$$
$$x + 3 = 10$$
$$x + 3 - 3 = 10 - 3$$
$$x = 7$$

(54)
$$\frac{x+2}{9} = 7$$
$$\frac{x+2}{9} \times 9 = 7 \times 9$$
$$x + 2 = 63$$
$$x + 2 - 2 = 63 - 2$$
$$x = 61$$

(55)
$$\frac{x}{2} + 10 = 13$$
$$\frac{x}{2} + 10 - 10 = 13 - 10$$
$$\frac{x}{2} = 3$$
$$\frac{x}{2} \times 2 = 3 \times 2$$
$$x = 6$$

(56)
$$2x + 9 = 23$$
$$2x + 9 - 9 = 23 - 9$$
$$2x = 14$$
$$\frac{2x}{2} = \frac{14}{2}$$
$$x = 7$$

(57)
$$\frac{x}{7} + 7 = 9$$
$$\frac{x}{7} + 7 - 7 = 9 - 7$$
$$\frac{x}{7} = 2$$
$$\frac{x}{7} \times 7 = 2 \times 7$$
$$x = 14$$

(58)
$$8x + 6 = 38$$
$$8x + 6 - 6 = 38 - 6$$
$$8x = 32$$
$$\frac{8x}{8} = \frac{32}{8}$$
$$x = 4$$

(59)
$$\frac{x}{7} - 10 = -1$$
$$\frac{x}{7} - 10 + 10 = -1 + 10$$
$$\frac{x}{7} = 9$$
$$\frac{x}{7} \times 7 = 9 \times 7$$
$$x = 63$$

(60)
$$\frac{x}{9} - 5 = 0$$
$$\frac{x}{9} - 5 + 5 = 0 + 5$$
$$\frac{x}{9} = 5$$
$$\frac{x}{9} \times 9 = 5 \times 9$$
$$x = 45$$

(61)
$$10(x-8)=10$$
$$\frac{10(x-8)}{10}=\frac{10}{10}$$
$$x-8=1$$
$$x-8+8=1+8$$
$$x=9$$

(62)
$$4(x+7)=48$$
$$\frac{4(x+7)}{4}=\frac{48}{4}$$
$$x+7=12$$
$$x+7-7=12-7$$
$$x=5$$

(63)
$$7(x-3)=21$$
$$\frac{7(x-3)}{7}=\frac{21}{7}$$
$$x-3=3$$
$$x-3+3=3+3$$
$$x=6$$

(64)
$$\frac{x}{3}-3=7$$
$$\frac{x}{3}-3+3=7+3$$
$$\frac{x}{3}=10$$
$$\frac{x}{3}\times 3=10\times 3$$
$$x=30$$

(65)
$$8x+3=19$$
$$8x+3-3=19-3$$
$$8x=16$$
$$\frac{8x}{8}=\frac{16}{8}$$
$$x=2$$

(66)
$$\frac{x}{5}-8=-4$$
$$\frac{x}{5}-8+8=-4+8$$
$$\frac{x}{5}=4$$
$$\frac{x}{5}\times 5=4\times 5$$
$$x=20$$

(67)
$$2(x-10)=-4$$
$$\frac{2(x-10)}{2}=\frac{-4}{2}$$
$$x-10=-2$$
$$x-10+10=-2+10$$
$$x=8$$

(68)
$$6x-9=51$$
$$6x-9+9=51+9$$
$$6x=60$$
$$\frac{6x}{6}=\frac{60}{6}$$
$$x=10$$

(69)
$$9x-6=75$$
$$9x-6+6=75+6$$
$$9x=81$$
$$\frac{9x}{9}=\frac{81}{9}$$
$$x=9$$

(70)
$$\frac{x}{9}-3=7$$
$$\frac{x}{9}-3+3=7+3$$
$$\frac{x}{9}=10$$
$$\frac{x}{9}\times 9=10\times 9$$
$$x=90$$

(71)
$$\frac{x+3}{8} = 9$$
$$\frac{x+3}{8} \times 8 = 9 \times 8$$
$$x + 3 = 72$$
$$x + 3 - 3 = 72 - 3$$
$$x = 69$$

(72)
$$\frac{x}{7} + 3 = 13$$
$$\frac{x}{7} + 3 - 3 = 13 - 3$$
$$\frac{x}{7} = 10$$
$$\frac{x}{7} \times 7 = 10 \times 7$$
$$x = 70$$

(73)
$$\frac{x}{5} - 2 = 3$$
$$\frac{x}{5} - 2 + 2 = 3 + 2$$
$$\frac{x}{5} = 5$$
$$\frac{x}{5} \times 5 = 5 \times 5$$
$$x = 25$$

(74)
$$7x + 7 = 42$$
$$7x + 7 - 7 = 42 - 7$$
$$7x = 35$$
$$\frac{7x}{7} = \frac{35}{7}$$
$$x = 5$$

(75)
$$\frac{x+10}{6} = 4$$
$$\frac{x+10}{6} \times 6 = 4 \times 6$$
$$x + 10 = 24$$
$$x + 10 - 10 = 24 - 10$$
$$x = 14$$

(76)
$$\frac{x}{5} - 3 = 2$$
$$\frac{x}{5} - 3 + 3 = 2 + 3$$
$$\frac{x}{5} = 5$$
$$\frac{x}{5} \times 5 = 5 \times 5$$
$$x = 25$$

(77)
$$\frac{x+5}{8} = 4$$
$$\frac{x+5}{8} \times 8 = 4 \times 8$$
$$x + 5 = 32$$
$$x + 5 - 5 = 32 - 5$$
$$x = 27$$

(78)
$$6x - 8 = 34$$
$$6x - 8 + 8 = 34 + 8$$
$$6x = 42$$
$$\frac{6x}{6} = \frac{42}{6}$$
$$x = 7$$

(79)
$$\frac{x-9}{9} = 5$$
$$\frac{x-9}{9} \times 9 = 5 \times 9$$
$$x - 9 = 45$$
$$x - 9 + 9 = 45 + 9$$
$$x = 90$$

(80)
$$\frac{x+10}{8} = 4$$
$$\frac{x+10}{8} \times 8 = 4 \times 8$$
$$x + 10 = 32$$
$$x + 10 - 10 = 32 - 10$$
$$x = 22$$