1. $7y+2=15+3y$
2. $\frac{x}{8}=\frac{x+1}{9}$
3. $14=8+\frac{m}{2}$
4. $1+\frac{6}{x}=-11$
7. $4-x=2(x-4)$
8. $\frac{7+x}{x}=22$
9. Find a if $ax-40=x+2$, $x=2$
11. $6x+20=2x$
12. Find C if $k=C+293$ and $k=20$
13. $6(x-2)-12=2x$
14. Find y if $3x+5y=29$, and $x=3$
17. $x-20=5x-20$
19. $10-x=x-10$
21. $\frac{2}{5x}+\frac{1}{x}=21$
25. $-2x+1<-9$
30. $\frac{x}{4}+\frac{3x}{8}>10$
31. Find P if $P=2(L+W)$, $L=10$, $W=6$
32. Find $f(4)$ if $f(x)=\frac{x+10}{x-5}$
33. Find A if $A=\pi r^2$, $\pi=3.14$, $r=6$
34. Find C if $C=\frac{5}{9}(F-32)$, $F=50$
35. Find $f(-3)$ if $f(x)=2x^2-4x-10$
36. If $x=-5$ Evaluate $(x+9)(x+5)$
40. Find $f(8)$ if $f(x)=x^{-2}$
41. Find $f(2)$ if $f(x)=\frac{4x}{1-x}$
48. Find $f(-1)$ if $f(x)=\sqrt{x+1}+2$
51. Find $f(-4)$ if $f(x)=|5x-2|$
52. Find $Pr-r$ if $P=-11$, $r=\frac{1}{2}$
53. Find $f(\frac{1}{4})$ if $f(x)=\frac{1}{x}+\frac{3}{x}$
54. Find mean of 1000, 2000, 4000, 7000, 9000
56. Evaluate $1000(1.05)^2$
57. Simplify $\frac{a^{10}}{a^3}$
60. Simplify $-2a^3(ab^2+b^2)$
62. $\left(\frac{4}{x}\right)^3$
63. $\left(\frac{2x}{3y}\right)\left(\frac{27y}{8x^2}\right)$
64. Simplify $\frac{x+4x^2}{x}$
66. Find N, $a^2+N+8b^2=(a+b)(a+8b)$
67. Find V, $V=\pi r^2 h$, $r=6a$, $h=2a+5$
68. Find area of a rectangle if $L=x+3$ and $W=2x-9$
69. Find area of a square if $L=4a-b$
70. If $4x^2-16=m$ then $x^2-4=$
71. Simplify $(2xy^8)^4$
72. Simplify $\left(\frac{8k}{2}\right)^2$
73. Simplify $p-0.15p$
76. Find x, $\frac{ax-b}{4a-1}=b$
77. Simplify $\frac{-45x^{87}y^7z^{11}}{-30x^2y^5z^4}$
78. $(3x+2y)(3x-2y)$

1.

TSI-81

EZ 81 Questions

79 $(3x-2y)(3x-2y)$

80 $(4x-3y)^2$

90 $(x-1)(x+2)$

113 Factor x^2-25

114 Factor x^2-16y^2

115 Factor $100x^2-9y^2$

117 Factor $\frac{9x^2}{16}-25$

120 Factor $\frac{9x^2}{16}-\frac{25y^2}{49}$

126 Factor x^2+6x-7

130 Factor x^2-x-2

134 Factor $2x^2+5x-3$

140 Factor $8x^2-7x-1$

145 Factor x^3+6x^2+8x

148 Factor GCF $3x^3-18x^2+3x$

153 Solve $x^2-6x-7=0$

155 Solve $x^2+x-12=0$

161 Solve $x^2+2=-3x$

164 Solve $3x^2+13x-10=0$ (Factor or use Quadratic formula)

169 Solve $(x+2)^2=9$

172 Solve $\frac{x}{9}=\frac{1}{x}$

173 Solve $\frac{x}{3}=\frac{1}{x}$

176 Solve $\sqrt{x-2}=8$

177 Solve $\sqrt{x}+2=5$

179 Find t if $t=\frac{\sqrt{x}}{2}$ and $x=32$

185 Solve
$x-y=6$
$x+y=8$

188 Solve
$x+2y=9$
$x=y$

189 Solve
$x+y=50$
$x-y=0$

190 Solve
$2x+3y=5$
$4x-2y=2$

191 Solve
$3x+2y=5$
$4x+7y=11$

194 Graph $y=2x+6$

195 Graph $y=\frac{1}{2}x-1$

197 Graph $y=x^2-4$

198 Graph $y=(x-4)^2-9$

199 Graph $y=|x|$

200 Graph $y=|x-2|+4$

2.

TSI - 8
08-15

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① $7y+2=15+3y$

$7y+2-2=15+3y-2$

$7y=3y+13$

$7y-3y=3y+13-3y$

$4y=13$

$\frac{4y}{4}=\frac{13}{4}$

$y=\frac{13}{4}$

② $\frac{x}{8}=\frac{x+1}{9}$

$9(x)=8(x+1)$

$9x=8x+8$

$9x-8x=8x+8-8x$

$1x=8$

$x=8$

③ $14=8+\frac{m}{2}$

$14-8=8+\frac{m}{2}-8$

$6=\frac{m}{2}$

$\frac{6}{1}=\frac{m}{2}$

$2(6)=1(m)$

$12=m$

(5.) $1+\frac{6}{x}=-11$

$x+\frac{6}{x}-x=-11-1$

$\frac{6}{x}=-12$

$\frac{6}{x}=\frac{-12}{1}$

$1(6)=-12(x)$

$6=-12x$

$\frac{6}{-12}=\frac{-12x}{-12}$

$-\frac{6}{12}=x$

$-\frac{6(1)}{6(2)}=x$

$-\frac{1}{2}=x$

(7.) $4-x=2(x-4)$

$4-x=2x-8$

$4-x-4=2x-8-4$

$-x=2x-12$

$-1x-2x=2x-12-2x$

$-3x=-12$

$\frac{-3x}{-3}=\frac{-12}{-3}$

$x=4$

(8) $\frac{7+x}{x} = 22$

$\frac{7+x}{x} = \frac{22}{1}$

$1(7+x) = 22(x)$

$7 + 1x = 22x$

$7 + 1x - 1x = 22x - 1x$

$7 = 21x$

$\frac{7}{21} = \frac{21x}{21}$

$\frac{7(1)}{7(3)} = x$

$\frac{1}{3} = x$

5.

(9) Find a if $ax - 40 = x + 2$ and $x = 2$.

$ax - 40 = x + 2$

$a(2) - 40 = (2) + 2$

$2a - 40 = 2 + 2$

$2a - 40 = 4$

$2a - 40 + 40 = 4 + 40$

$2a = 44$

$\frac{2a}{2} = \frac{44}{2}$

$a = 22$

(11) $6x+20=2x$

$6x+20-20=2x-20$

$6x=2x-20$

$6x-2x=2x-20-2x$

$4x=-20$

$\frac{4x}{4}=\frac{-20}{4}$

$x=-5$

(12) Find C if $k=C+293$ and $k=20$

$k=C+293$

$20=C+293$

$20-293=C+293-293$

$-273=C$

(13) $6(x-2)-12=2x$

$6x-12-12=2x$

$6x-24=2x$

$6x-24+24=2x+24$

$6x=2x+24$

$6x-2x=2x+24-2x$

$4x=24$

$\frac{4x}{4}=\frac{24}{4}$

$x=6$

(14) Find y if $3x+5y=29$ and $x=3$

$3x+5y=29$

$3(3)+5y=29$

$9+5y=29$

$9+5y-9=29-9$

$5y=20$

$\frac{5y}{5}=\frac{20}{5}$

$y=4$

(17) $x-20=5x-20$

$x-20+20=5x-20+20$

$x=5x$

$x-5x=5x-5x$

$1x-5x=0$

$-4x=0$

$\frac{-4x}{-4}=\frac{0}{-4}$

$x=0$

(19) $10-x=x-10$

$10-x-10=x-10-10$

$-x=x-20$

$-x-x=x-20-x$

$-1x-1x=-20$

$-2x=-20$

$\frac{-2x}{-2}=\frac{-20}{-2}$

$x=10$

21. $\frac{2}{5x} + \frac{1}{x} = \frac{21}{1}$ LCD = 5x

$\frac{2}{5x}(5x) + \frac{1}{x}(5x) = \frac{21}{1}(5x)$

$2(1) + 1(5) = 21(5x)$

$2 + 5 = 105x$

$7 = 105x$

$\frac{7}{105} = \frac{105x}{105}$

$\frac{7}{105} = x$

$\frac{7(1)}{7(15)} = x$

$\frac{1}{15} = x$

$21 \times 5 = 105$

8.

$$7\overline{)105}\quad 15$$
$$-(7)$$
$$35$$
$$-(35)$$
$$0$$

25. $-2x + 1 < -9$

$-2x + x - 1 < -9 - 1$

$-2x < -10$

$\frac{-2x}{-2} > \frac{-10}{-2}$

$x > 5$

30. $\frac{x}{4} + \frac{3x}{8} > 10$ LCD = 8

$\frac{x}{4}(8) + \frac{3x}{8}(8) > \frac{10}{1}(8)$

$x(2) + 3x(1) > 10(8)$

$2x + 3x > 80$

$5x > 80$

$\frac{5x}{5} > \frac{80}{5}$

$x > 16$

$$5\overline{)80}\quad 16$$
$$-(5)$$
$$30$$
$$30$$
$$0$$
Rm

(31.) Find P if $P=2(L+W)$, $L=10$, $W=6$

$P=2(L+W)$

$P=2(10+6)$

$P=2(16)$

$P=32$

(32.) Find $f(4)$ if $f(x)=\frac{x+10}{x-5}$

$f(x)=\frac{x+10}{x-5}$

$f(4)=\frac{(4)+10}{(4)-5}$

$f(4)=\frac{4+10}{4-5}$

$f(4)=\frac{14}{-1}$

$f(4)=-14$

(33.) Find A if $A=\pi r^2$, $\pi=3.14$, $r=6$

$A=\pi r^2$

$A=3.14(6)^2$

$A=3.14(6)(6)$

$A=3.14(36)$

$A=113.04$

$$\begin{array}{r} 3.14 \\ \times\ 36 \\ \hline 1884 \\ 942 \\ \hline 113.04 \end{array}$$

(34) Find C if $C = \frac{5}{9}(F-32)$ and $F = 50$

$C = \frac{5}{9}(F-32)$

$C = \frac{5}{9}(50-32)$

$C = \frac{5}{9}(18)$

$C = 5(2)$

$C = 10$

(35) Find $f(-3)$ if $f(x) = 2x^2 - 4x - 10$

$f(x) = 2x^2 - 4x - 10$

$f(-3) = 2(-3)^2 - 4(-3) - 10$

$f(-3) = 2(-3)(-3) - 4(-3) - 10$

$f(-3) = 2(9) - 4(-3) - 10$

$f(-3) = 18 + 12 - 10$

$f(-3) = 30 - 10$

$f(-3) = 20$

(36) If $x = -5$ then evaluate $(x+9)(x+5)$

$(x+9)(x+5) =$

$(-5+9)(-5+5) =$

$(4)(0) =$

$0 =$

(40.) find $f(8)$ if $f(x) = x^{-2}$

$f(x) = x^{-2}$

$f(8) = 8^{-2}$

$f(8) = \frac{1}{8^2}$

$f(8) = \frac{1}{8 \cdot 8}$

$f(8) = \frac{1}{64}$

(41.) find $f(2)$ if $f(x) = \frac{4x}{1-x}$

$f(x) = \frac{4x}{1-x}$

$f(2) = \frac{4(2)}{1-(2)}$

$f(2) = \frac{8}{1-2}$

$f(2) = \frac{8}{-1}$

$f(2) = -8$

(48.) find $f(-1)$ if $f(x) = \sqrt{x+1} + 2$

$f(x) = \sqrt{x+1} + 2$

$f(-1) = \sqrt{(-1)+1} + 2$

$f(-1) = \sqrt{-1+1} + 2$

$f(-1) = \sqrt{0} + 2$

$f(-1) = 0 + 2$

$f(-1) = 2$

(51.) find $f(-4)$ if $f(x) = |5x-2|$

$f(x) = |5x-2|$

$f(-4) = |5(-4)-2|$

$f(-4) = |-20-2|$

$f(-4) = |-22|$

$f(-4) = 22$

(52.) find $Pr - r$ if $p = -11$ and $r = \frac{1}{2}$

$Pr - r =$

$(-11)(\frac{1}{2}) - (\frac{1}{2}) =$

$(\frac{-11}{1})(\frac{1}{2}) - (\frac{1}{2}) =$

$-\frac{11}{2} - \frac{1}{2} =$

$\frac{-11-1}{2} =$

$\frac{-12}{2} =$

$-6 =$

(53) find $f(\frac{1}{4})$ if $f(x) = \frac{1}{x} + \frac{3}{x}$

13.

$f(x) = \frac{1}{x} + \frac{3}{x}$

$f(\frac{1}{4}) = \frac{1}{\frac{1}{4}} + \frac{3}{\frac{1}{4}}$

$f(\frac{1}{4}) = \frac{\frac{1}{1}}{\frac{1}{4}} + \frac{\frac{3}{1}}{\frac{1}{4}}$

$f(\frac{1}{4}) = \frac{1}{1} \cdot \frac{4}{1} + \frac{3}{1} \cdot \frac{4}{1}$

$f(\frac{1}{4}) = \frac{4}{1} + \frac{12}{1}$

$f(\frac{1}{4}) = 4 + 12$

$f(\frac{1}{4}) = 16$

(54) Find the mean of
1000, 2000, 4000, 7000, 9000

$$\begin{array}{r} 1000 \\ 2000 \\ 4000 \\ 7000 \\ +\ 9000 \\ \hline 23000 \end{array}$$

$$\begin{array}{r} 4600 \\ 5\overline{)23000} \\ -(20) \\ \hline 30 \\ -(30) \\ \hline 00 \\ 00 \\ \hline 00 \end{array}$$

(56) Evaluate $1000(1.05)^2 =$

$1000(1.05)(1.05) =$

$1000(1.1025) =$

$1102.5 =$

$$\begin{array}{r} 1.05 \\ \times 1.05 \\ \hline 525 \\ 000 \\ 105 \\ \hline 1.1025 \end{array}$$

14

(57) simplify

$$\frac{a^{10}}{a^3} =$$

$$a^{10-3} =$$

$$a^7 =$$

(60) Simplify

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

$-2a^3(1a^1b^2 + 1b^2) =$

$-2a^{3+1}b^2 - 2a^3b^2 =$

$-2a^4b^2 - 2a^3b^2 =$

(62) Simplify

$$\left(\frac{4}{x}\right)^3 =$$

$$\left(\frac{4}{x}\right)\left(\frac{4}{x}\right)\left(\frac{4}{x}\right) =$$

$$\frac{64}{x^3} =$$

(63) Simplify

$$\left(\frac{2x}{3y}\right)\left(\frac{27y}{8x^2}\right)$$

$$\frac{2x}{3y} \cdot \frac{3 \cdot 3 \cdot 3 \cdot y}{2 \cdot 2 \cdot 2 \cdot x \cdot x} =$$

$$\frac{\cancel{2x}}{\cancel{3y}} \cdot \frac{\cancel{3} \cdot 3 \cdot 3 \cdot \cancel{y}}{\cancel{2} \cdot 2 \cdot 2 \cdot \cancel{x} \cdot x} =$$

$$\frac{9}{4x} =$$

Primes 2, 3, 5, 7, 11, 13, 17, 19, ...

$3 \mid 27$, $3 \mid 9$, $3 \mid 3$, 1 → $27 = 3 \cdot 3 \cdot 3$

$2 \mid 8$, $2 \mid 4$, $2 \mid 2$, 1 → $8 = 2 \cdot 2 \cdot 2$

15

(64) Simplify

$$\frac{x + 4x^2}{x} =$$

$$\frac{x}{x} + \frac{4x^2}{x} =$$

$$\frac{x}{x} + \frac{4 \cdot x \cdot \cancel{x}}{\cancel{x}} =$$

$$1 + 4x =$$

(66) Find N if $a^2 + N + 8b^2 = (a+b)(a+8b)$

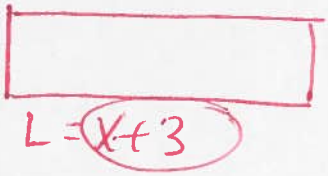
$$a^2 + N + 8b^2 = a^2 + 8ab + ab + 8b^2$$

$$= a^2 + 8ab + 1ab + 8b^2$$

$$= a^2 + 9ab + 8b^2$$

$$N = 9ab$$

(68) Find area



$A = LW$

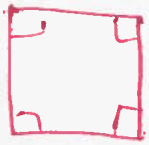
$A = (x+3)(2x-9)$

$A = 2x^2 - 9x + 6x - 27$

$A = 2x^2 - 3x - 27$ area

16.

(69) Find the area of a Square



$A = LW$

$A = (4a-b)(4a-b)$

$A = 16a^2 - 4ab - 4ab + b^2$

$A = 16a^2 - 8ab + b^2$ area

(70) If $4x^2 - 16 = m$ then find $x^2 - 4 =$

$\frac{4x^2}{4} - \frac{16}{4} = \frac{m}{4}$

$x^2 - 4 = \frac{m}{4}$

(71) Simplify

$(2xy^8)^4 =$

$(2^1x^1y^8)^4 =$

$2^4x^4y^{32} =$

$2 \cdot 2 \cdot 2 \cdot 2 x^4 y^{32} =$

$16x^4y^{32} =$

72) Simplify

$\left(\frac{8k}{2}\right)^2 =$

$(4k)^2 =$

$(4k)(4k) =$

$16k^2 =$

17.

73) Simplify

$p - .15p =$

Discount

$1.00p - .15p =$

$.85p =$

76) Find x if $\frac{ax-b}{4a-1} = b$

$\frac{ax-b}{4a-1} = \frac{b}{1}$

$1(ax-b) = b(4a-1)$

$ax - 1b = 4ab - 1b$

$ax - 1b + 1b = 4ab - 1b + 1b$

$ax = 4ab$

$\frac{ax}{a} = \frac{4ab}{a}$

$x = 4b$

77. Simplify

$$\frac{-45x^8y^7z^{11}}{-30x^2y^5z^4} =$$

$$\frac{-15(3)x^{8-2}y^{7-5}z^{11-4}}{-15(2)} =$$

$$\frac{3x^6y^2z^7}{2} =$$

18.

78. Simplify $(3x+2y)(3x-2y) =$

$$9x^2-6xy+6xy-4y^2 =$$

$$9x^2-4y^2 =$$

79. Simplify $(3x-2y)(3x-2y) =$

$$9x^2-6xy-6xy+4y^2 =$$

$$9x^2-12xy+4y^2 =$$

80. Simplify $(4x-3y)^2 =$

$$(4x-3y)(4x-3y) =$$

$$16x^2-12xy-12xy+9y^2 =$$

$$16x^2-24xy+9y^2 =$$

19.

90. Simplify

$(x-1)(x+2) =$

$x^2 + 2x - 1x - 2 =$

$x^2 + 1x - 2 =$

$x^2 + x - 2 =$

113. Factor

$x^2 - 25 =$

$(x)^2 - (5)^2 =$

$(x+5)(x-5) =$

$a^2 - b^2 = (a+b)(a-b)$

114. Factor

$x^2 - 16y^2 =$

$(x)^2 - (4y)^2 =$

$(x+4y)(x-4y) =$

$a^2 - b^2 = (a+b)(a-b)$

115. Factor

$100x^2 - 9y^2 =$

$(10x)^2 - (3y)^2 =$

$(10x+3y)(10x-3y) =$

$a^2 - b^2 = (a+b)(a-b)$

117. Factor

$\frac{9x^2}{16} - 25 =$

$a^2 - b^2 = (a+b)(a-b)$

$\left(\frac{3x}{4}\right)^2 - (5)^2 =$

$\left(\frac{3x}{4} + 5\right)\left(\frac{3x}{4} - 5\right) =$

20.

120. Factor

$\frac{9x^2}{16} - \frac{25y^2}{49} =$

$a^2 - b^2 = (a+b)(a-b)$

$\left(\frac{3x}{4}\right)^2 - \left(\frac{5y}{7}\right)^2 =$

$\left(\frac{3x}{4} + \frac{5y}{7}\right)\left(\frac{3x}{4} - \frac{5y}{7}\right) =$

126. Factor

$x^2 + 6x - 7 =$

1.7

$(x-1)(x+7) =$

130. Factor

$x^2 - x - 2 =$

2.1

$(x+1)(x-2) =$

134 Factor

$2x^2+5x-3=$ 2.1 1.3

$(2x-1)(x+3)=$

21

140. Factor

$8x^2-7x-1=$ 8.1 2.4 1.1

$(8x+1)(x-1)=$

145. Factor

$x^3+6x^2+8x=$ 8.1 2.4

$x(x^2+6x+8)=$

$x(x+2)(x+4)=$

148 Factor GCF

$3x^3-18x^2+3x=$

$3x(x^2-6x+1)=$

153. Solve 1.7

$x^2-6x-7=0$

$(x+1)(x-7)=0$

Set $x+1=0$ OR $x-7=0$

$x+1-1=0-1$ OR $x-7+7=0+7$

$x=-1$ OR $x=7$

$\{-1, 7\}$

155. Solve

$x^2 - x - 12 = 0$

$(x+3)(x-4) = 0$

Let $x+3=0$ OR $x-4=0$

$x+3-3=0-3$ OR $x-4+4=0+4$

$x=-3$ OR $x=4$

12.1
6.2
3.4

$\{-3, 4\}$

22

161. Solve

$x^2 + 2 = -3x$

$x^2 + 2 + 3x = -3x + 3x$

$x^2 + 2 + 3x = 0$

$x^2 + 3x + 2 = 0$

$(x+1)(x+2) = 0$

1.2

$\{-1, -2\}$

Let $x+1=0$ OR $x+2=0$

$x+1-1=0-1$ OR $x+2-2=0-2$

$x=-1$ OR $x=-2$

(164) Solve by factoring

$3x^2+13x-10=0$

$(3x-2)(x+5)=0$

Set $3x-2=0$ OR $x+5=0$

$3x-2+2=0+2$ OR $x+5-5=0-5$

$3x=2$

$\frac{3x}{3}=\frac{2}{3}$ OR $x=-5$

$x=\frac{2}{3}$

3.1 10.1 2.5 23

$\left\{\frac{2}{3}, -5\right\}$

OR use Quadratic formula

$3x^2+13x-10=0$

$a=3, \quad b=13, \quad c=-10$

$$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$$

$$x=\frac{-(13)\pm\sqrt{(13)^2-4(3)(-10)}}{2(3)}$$

$$x=\frac{-13\pm\sqrt{169+120}}{6}$$

$$x=\frac{-13\pm\sqrt{289}}{6}$$

$$x=\frac{-13\pm17}{6}$$

$x=\frac{-13-17}{6}$ OR $x=\frac{-13+17}{6}$

$x=\frac{-30}{6}$ OR $x=\frac{4}{6}$

$x=-5$ or $x=\frac{2(2)}{2(3)}$

$x=\frac{2}{3}$

169 Solve

$(x+2)^2 = 9$

$\sqrt{(x+2)^2} = \pm\sqrt{9}$

$x+2 = \pm 3$

$x+2 = -3$ OR $x+2 = 3$

$x+2-2 = -3-2$ OR $x+2-2 = 3-2$

$x = -5$ OR $x = 1$

$\{-5, 1\}$

24.

172. Solve

$\frac{x}{9} = \frac{1}{x}$

$x(x) = 9(1)$

$x^2 = 9$

$\sqrt{x^2} = \pm\sqrt{9}$

$x = \pm 3$

$x = -3$ OR $x = 3$

$\{-3, 3\}$

173. Solve

$\frac{x}{3} = \frac{1}{x}$

$x(x) = 3(1)$

$x^2 = 3$

$\sqrt{x^2} = \pm\sqrt{3}$

$x = \pm\sqrt{3}$

$x = -\sqrt{3}$ OR $x = \sqrt{3}$

$\{-\sqrt{3}, \sqrt{3}\}$

176. Solve

$\sqrt{x-2} = 8$

$(\sqrt{x-2})^2 = (8)^2$

$x - 2 = 64$

$x - 2 + 2 = 64 + 2$

$x = 66$

{66}

177. Solve

$\sqrt{x} + 2 = 5$

$\sqrt{x} + 2 - 2 = 5 - 2$

$\sqrt{x} = 3$

$(\sqrt{x})^2 = (3)^2$

$x = 9$

{9}

179. Find t if $t = \frac{\sqrt{x}}{2}$ and $x = 32$

$t = \frac{\sqrt{x}}{2}$

$t = \frac{\sqrt{32}}{2}$

$t = \frac{\sqrt{16 \cdot 2}}{2}$

$t = \frac{\sqrt{16}\sqrt{2}}{2}$

$t = \frac{4\sqrt{2}}{2}$

$t = 2\sqrt{2}$

26.

185 Solve for x

$x - y = 6$

$x + y = 8$

$2x = 14$

$\frac{2x}{2} = \frac{14}{2}$

$x = 7$

188 Solve for x

$x + 2y = 9$

$x = y$

$x + 2(x) = 9$

$1x + 2x = 9$

$3x = 9$

$\frac{3x}{3} = \frac{9}{3}$

$x = 3$

189 Solve for x

$x + y = 50$

$x - y = 0$

$2x = 50$

$\frac{2x}{2} = \frac{50}{2}$

$x = 25$

(190) Solve for x

$2x+3y=5$

$4x-2y=2$

$(2x+3y=5)(2)$

$(4x-2y=2)(3)$

$4x+6y=10$

$12x-6y=6$

$16x=16$

$\frac{16x}{16}=\frac{16}{16}$

$x=1$

(191) Solve for x

$3x+2y=5$

$4x+7y=11$

$(3x+2y=5)(-7)$

$(4x+7y=11)(2)$

$-21x-14y=-35$

$8x+14y=22$

$-13x=-13$

$\frac{-13x}{-13}=\frac{-13}{-13}$

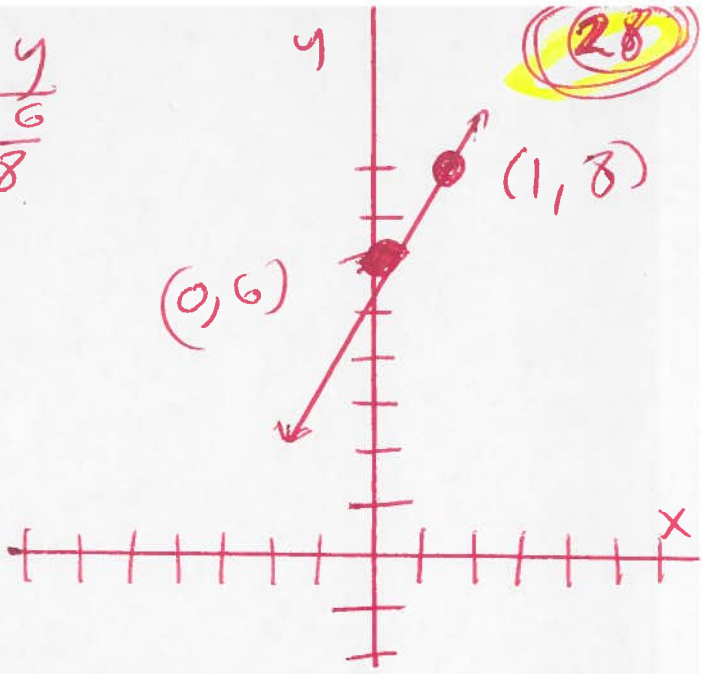
$x=1$

194. Graph $y = 2x + 6$

x	y
0	6
1	8

$y = 2(0) + 6$
$y = 0 + 6$
$y = 6$

$y = 2(1) + 6$
$y = 2 + 6$
$y = 8$

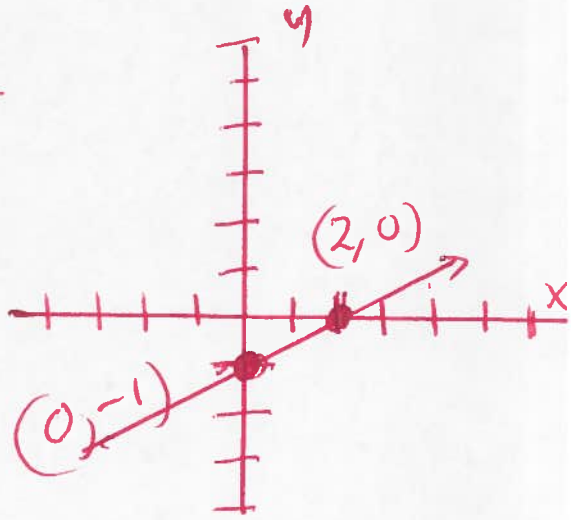


195. Graph $y = \frac{1}{2}x - 1$

x	y
0	-1
2	0

$y = \frac{1}{2}(0) - 1$
$y = 0 - 1$
$y = -1$

$y = \frac{1}{2}(2) - 1$
$y = 1 - 1$
$= 0$



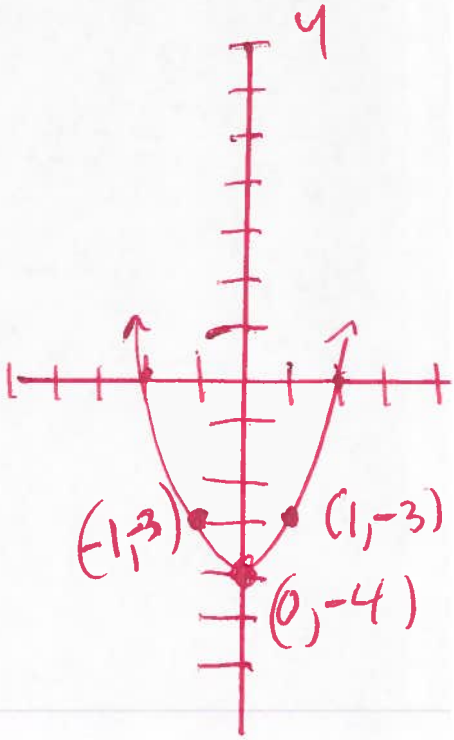
197. Graph $y = x^2 - 4$

x	y
-1	-3
0	-4
1	-3

$y = (-1)^2 - 4$
$y = (-1)(-1) - 4$
$y = 1 - 4$
$y = -3$

$y = (0)^2 - 4$
$y = (0)(0) - 4$
$y = 0 - 4$
$y = -4$

$y = (1)^2 - 4$
$y = (1)(1) - 4$
$y = 1 - 4$
$y = -3$



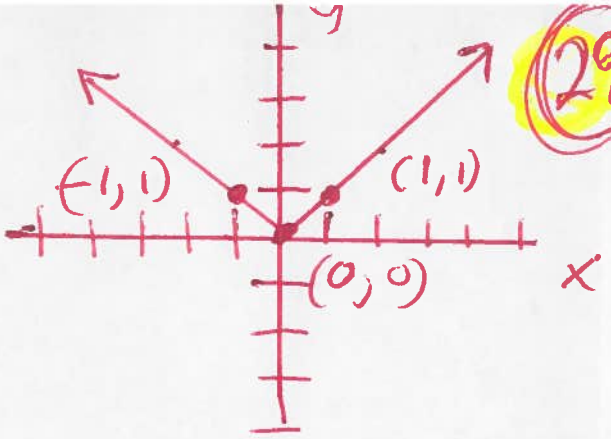
(199) Graph

$y = |x|$

$y = |-1|$ / $y = |0|$ / $y = |1|$

$y = 1$ / $y = 0$ / $y = 1$

x	y
-1	1
0	0
1	1



29.

(200) Graph

$y = |x-2| + 4$

x	y
1	5
2	4
3	5

$y = |(1)-2|+4$

$y = |1-2|+4$

$y = |-1|+4$

$y = 1+4$

$y = 5$

$y = |(2)-2|+4$

$y = |2-2|+4$

$y = |0|+4$

$y = 0+4$

$y = 4$

$y = |(3)-2|+4$

$y = |3-2|+4$

$y = |1|+4$

$y = 1+4$

$y = 5$