TSI multiple choice TSI 33 6001 092415

1. $14 = 8 + \frac{m}{2}$

(a) $m = -8$ (b) $m = 8$ (c) $m = 12$ (d) $m = -12$

2. $\frac{7+x}{x} = 22$

(a) $x = -\frac{1}{2}$ (b) $x = \frac{1}{2}$ (c) $x = \frac{1}{3}$ (d) $x = -\frac{1}{3}$

3. Find a if $ax - 40 = x + 2$, $x = 2$

(a) $a = 21$ (b) $a = -22$ (c) $a = 22$ (d) $a = -21$

4. $6x + 20 = 2x$

(a) $x = -6$ (b) $x = 6$ (c) $x = -5$ (d) $x = 5$

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

(a) $x = -15$ (b) $x = 15$ (c) $x = \frac{1}{15}$ (d) $x = \frac{-1}{15}$

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

(a) $P = 10$ (b) $P = 30$ (c) $P = 32$ (d) $P = 31$

7. If $x = -5$ Evaluate $(x+9)(x+5)$

(a) 10 (b) -10 (c) 0 (d) 5

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

(a) $f(-1) = 4$ (b) $f(-1) = 3$ (c) $f(-1) = 2$ (d) $f(-1) = 0$

9. Find $Pr - r$ if $p = -11$, $r = \frac{1}{2}$

(a) 4 (b) -4 (c) -6 (d) 6

TS133 002

10. Find Mean
1000, 2000, 4000, 7000, 9000

(a) 4000 (b) 4400 (c) 4600 (d) 4500

11. Evaluate $1000(1.05)^2$

(a) 11025.0 (b) 1.10250 (c) 1102.50 (d) 11.0250

12. simplify $\frac{a^{10}}{a^3}$

(a) a^3 (b) a^4 (c) a^7 (d) a^6

13. simplify $-2a^3(ab^2+b^2)$

(a) $-2a^3b^2-2a^2b^2$ (b) $2a^4b^2+2a^3b^2$

(c) $-2a^4b^2-2a^3b^2$ (d) $2a^4b^2-2a^3b^2$

14. simplify $\left(\frac{4}{x}\right)^3$

(a) $\frac{8}{x^2}$ (b) $\frac{16}{x^3}$ (c) $\frac{64}{x^3}$ (d) $\frac{64}{x^2}$

15. If $4x^2-16=m$ then $x^2-4=$

(a) $-4m$ (b) $-\frac{m}{4}$ (c) $\frac{m}{4}$ (d) $4m$

16. simplify $\left(\frac{8k}{2}\right)^2$

(a) $16k^3$ (b) $64k^2$ (c) $16k^2$ (d) $8k^2$

TS133 003

17. Simplify $p - 0.15p$

(a) $.75p$ (b) $.95p$ (c) $.85p$ (d) $.90p$

18. $(3x+2y)(3x-2y)$

(a) $9x^2 - 12xy - 4y^2$ (b) $9x^2 + 12xy - 4y^2$

(c) $9x^2 - 4y^2$ (d) $9x^2 + 4y^2$

19. $(3x-2y)(3x-2y)$

(a) $9x^2 - 4y^2$ (b) $9x^2 + 4y^2$

(c) $9x^2 - 12xy + 4y^2$ (d) $9x^2 + 12xy + 4y^2$

20. Factor $100x^2 - 9y^2$

(a) $(10x+9y)(10x-9y)$ (b) $(10x+3y)(10x+3y)$

(c) $(10x+3y)(10x-3y)$ (d) $(10x-3y)(10x-3y)$

21. Factor $x^2 + 6x - 7$

(a) $(x+1)(x-7)$ (b) $(x+1)(x+7)$

(c) $(x-1)(x+7)$ (d) $(x-1)(x-7)$

22. Factor $x^2 - x - 2$

(a) $(x-1)(x+2)$ (b) $(x+1)(x+2)$

(c) $(x+1)(x-2)$ (d) $(x-1)(x-2)$

TSI 33 6@4

23. Factor $2x^2+5x-3$

(a) $(2x+1)(x-3)$ (b) $(2x+1)(x+3)$

(c) $(2x-1)(x+3)$ (d) $(2x-1)(x-3)$

24. Factor x^3+6x^2+8x

(a) $x(x+2)(x-4)$ (b) $x(x-2)(x+4)$

(c) $x(x+2)(x+4)$ (d) $x(x-2)(x-4)$

25. Factor. GCF $3x^3-18x^2+3x$

(a) $3x(x^2+6x-1)$ (b) $3x(x^2+6x+1)$

(c) $3x(x^2-6x+1)$ (d) $3x(x^2-6x-1)$

26. Solve $x^2-6x-7=0$

(a) $\{1,-7\}$ (b) $\{1,7\}$ (c) $\{-1,7\}$ (d) $\{-1,-7\}$

27. Solve $x^2+x-12=0$

(a) $\{-3,-4\}$ (b) $\{-3,4\}$ (c) $\{3,-4\}$ (d) $\{3,4\}$

28. Solve $\frac{x}{9}=\frac{1}{x}$

(a) $\{-1,-9\}$ (b) $\{1,-9\}$ (c) $\{-3,3\}$ (d) $\{-9,9\}$

TSI33005

29. Solve $\sqrt{x-2} = 8$

(a) $x = -64$ (b) $x = 64$ (c) $x = 66$ (d) $x = -66$

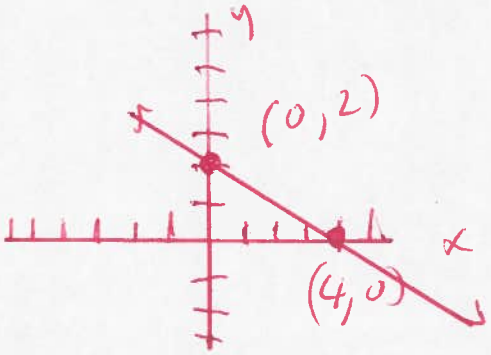
30. Solve $2x + 3y = 5$
$4x - 2y = 2$

(a) $(x, y) = (-1, -2)$ (b) $(x, y) = (1, 2)$

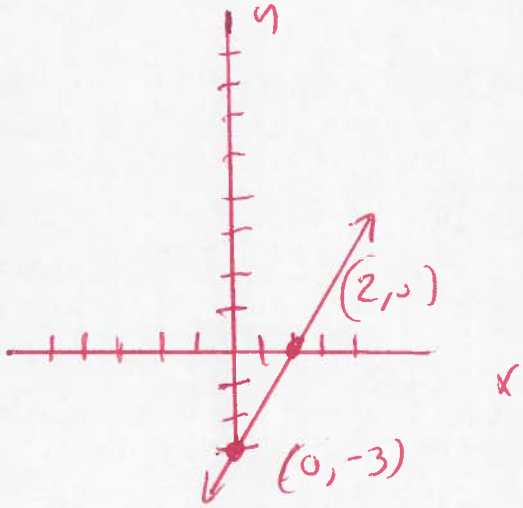
(c) $(x, y) = (1, 1)$ (d) $(x, y) = (-1, 1)$

31. graph $y = 2x + 6$

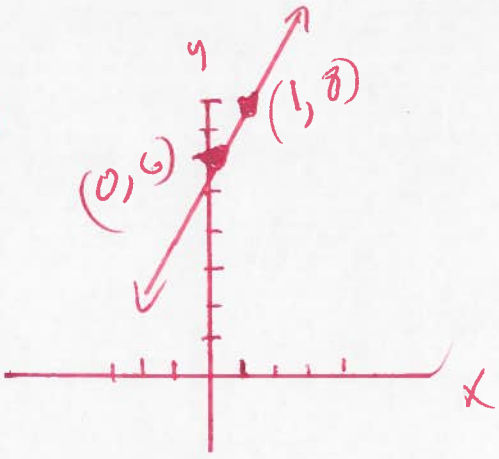
(a)



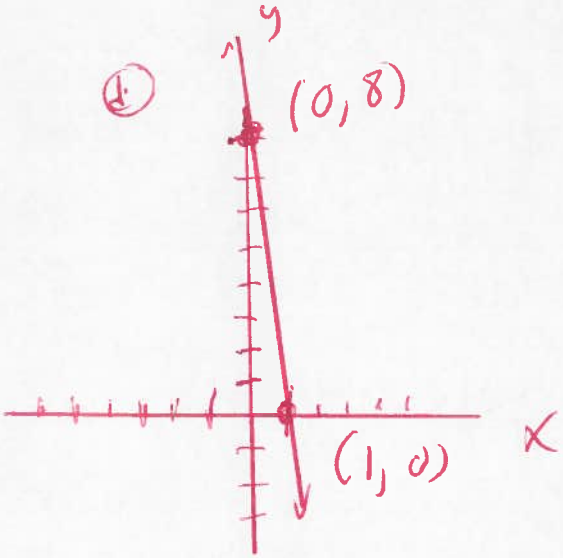
(b)



(c)



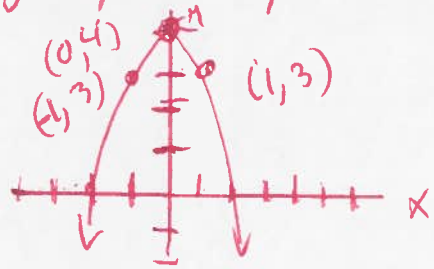
(d)



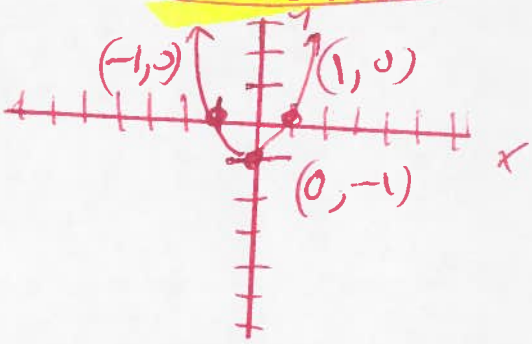
TS133006

32 graph $y = x^2 - 4$

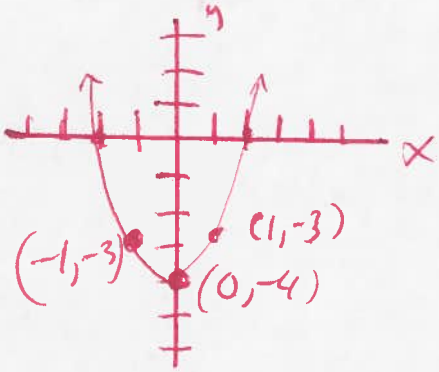
(a)



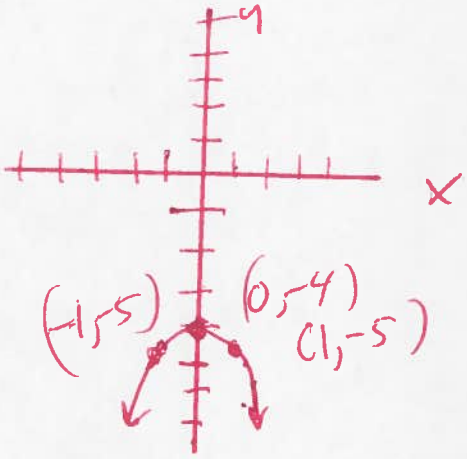
(b)



(c)

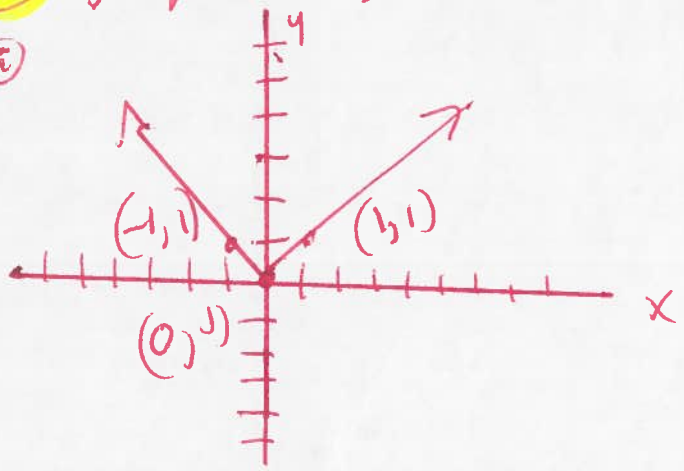


(d)

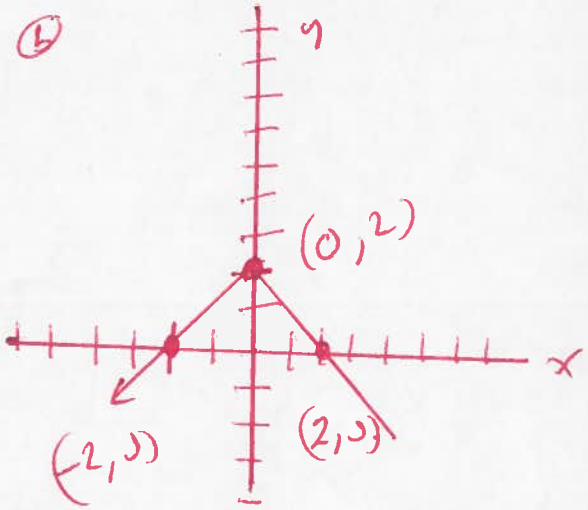


33 graph $y = |x-2| + 4$

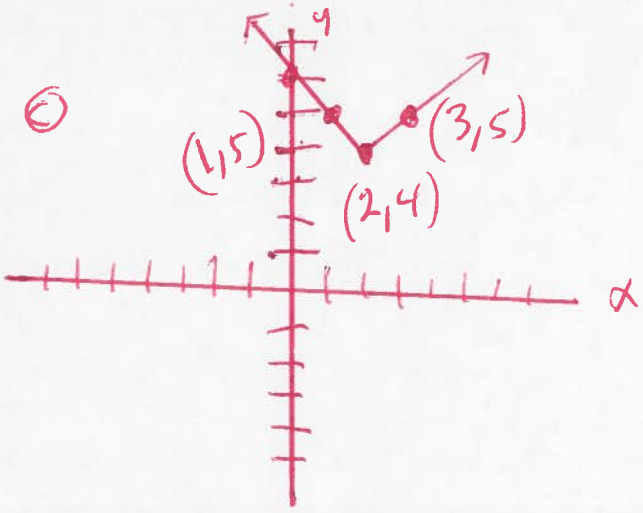
(a)



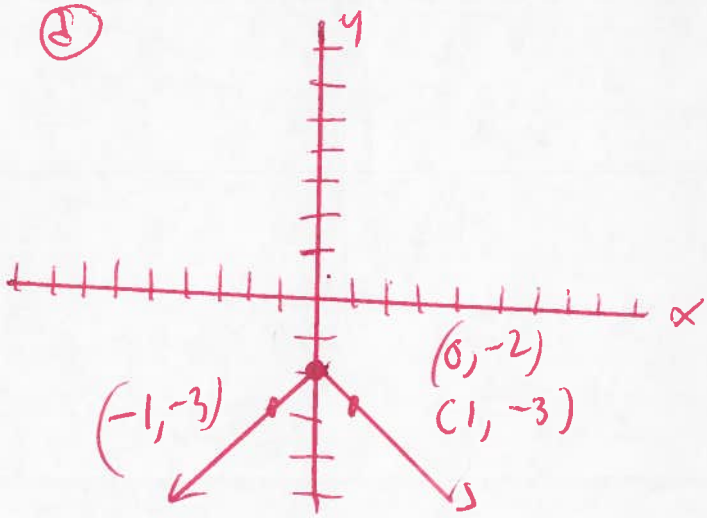
(b)



(c)



(d)



TSI-33

1. $14 = 8 + \frac{m}{2}$
2. $\frac{7+x}{x} = 22$
3. Find a if $ax - 40 = x + 2$, $x = 2$
4. $6x + 20 = 2x$
5. $\frac{2}{5x} + \frac{1}{x} = 21$
6. Find P if $P = 2(L+W)$, $L = 10$, $W = 6$
7. If $x = -5$ Evaluate $(x+9)(x+5)$
8. Find $f(-1)$ if $f(x) = \sqrt{x+1} + 2$
9. Find $Pr - r$ if $P = -11$, $r = \frac{1}{2}$
10. Find Mean (average) 1000, 2000, 4000, 7000, 9000
11. Evaluate $1000(1.05)^2$
12. Simplify $\frac{a^{10}}{a^3}$
13. Simplify $-2a^3(ab^2 + b^2)$
14. $\left(\frac{4}{x}\right)^3$
15. If $4x^2 - 16 = m$ then $x^2 - 4 =$
16. Simplify $\left(\frac{8k}{2}\right)^2$
17. Simplify $p - 0.15p$
18. $(3x + 2y)(3x - 2y)$
19. $(3x - 2y)(3x - 2y)$
20. Factor $100x^2 - 9y^2$
21. Factor $x^2 + 6x - 7$
22. Factor $x^2 - x - 2$
23. Factor $2x^2 + 5x - 3$
24. Factor $x^3 + 6x^2 + 8x$
25. Factor GCF $3x^3 - 18x^2 + 3x$
26. Solve $x^2 - 6x - 7 = 0$
27. Solve $x^2 + x - 12 = 0$
28. Solve $\frac{x}{9} = \frac{1}{x}$
29. Solve $\sqrt{x-2} = 8$
30. Solve $2x + 3y = 5$, $4x - 2y = 2$
31. Graph $y = 2x + 6$
32. Graph $y = x^2 - 4$
33. Graph $y = |x - 2| + 4$

TSI-33 09285 1.

① $14 = 8 + \frac{m}{2}$

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

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

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

$2(6) = 1(m)$

$12 = m$

② $\frac{7+x}{x} = 22$

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

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

$7 + 1x = 22x$

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

$7 = 21x$

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

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

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

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

(3) Find a if $ax-40=x+2$, $x=2$

$ax-40=x+2$

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

$2a-40=2+2$

$2a-40=4$

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

$2a=44$

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

$a=22$

(4.) $6x+20=2x$

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

$6x=2x-20$

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

$4x=-20$

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

$x=-5$

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

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

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

$2+5=105x$

$7=105x$

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

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

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

$21 \times 5 = 105$

$7\overline{)105}$ 15

$-(7)$

35

$-(35)$

0 rem

⑥ Find P if $P=2(L+W)$, $L=10$, $W=6$

$P=2(L+W)$

$P=2(10+6)$

$P=2(16)$

$P=32$

4

⑦ If $X=-5$ Evaluate $(X+9)(X+5)$

$(X+9)(X+5)=$

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

$(4)(0)=$

$0=$

⑧ Find $f(-1)$ if $f(x)=\sqrt{x+1}+2$

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

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

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

$f(-1)=0+2$

$f(-1)=2$

⑨ Find $Pr-r$ if $P=-11$, $r=\frac{1}{2}$

$Pr-r=$

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

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

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

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

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

$-6=$

(10.) find mean (average)
1000, 2000, 4000, 7000, 9000

4600 =

1000
2000
4000
7000
9000
23,000

4600
5 | 23000
(20)
30
(30)
00
00
0

(11.) Evaluate $1000(1.05)^2$

$1000(1.05)^2 =$
$1000(1.05)(1.05) =$
$1000(1.1025) =$

1102.50 =

1.05
× 1.05
525
000
105
1,1025

1.1025
× 1000
1102,5000

(12.) simplify $\frac{a^{10}}{a^3} =$

$a^{10-3} =$

$a^7 =$

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

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

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

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

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

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

15. If $4x^2 - 16 = m$ then $x^2 - 4 =$

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

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

16. Simplify $\left(\frac{8k}{2}\right)^2$

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

$$(4k)^2 =$$

$$(4k)(4k) =$$

$$16k^2 =$$

17. Simplify $p - 0.15p$

$$1.00p - 0.15p =$$

$$.85p =$$

18. $(3x + 2y)(3x - 2y) =$

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

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

19. $(3x - 2y)(3x - 2y) =$

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

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

(20) Factor

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

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

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

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

7.1

(21.) Factor

$x^2 + 6x - 7 =$

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

7.1

(22.) Factor

$x^2 - x - 2 =$

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

2.1

(23.) Factor

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

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

2.1 3.1

(24.) Factor

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

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

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

8.1 2.4

(25.) Factor GCF

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

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

(26.) Solve

$x^2 - 6x - 7 = 0$ (7.1)

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

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

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

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

(27.) Solve

$x^2 + x - 12 = 0$ (12.1, 6.2, 3.4)

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

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

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

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

(28.) 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 $x=3$

(8.)

(29) Solve

$\sqrt{x-2} = 8$

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

$x - 2 = 64$

$x - 2 + 2 = 64 + 2$

$x = 66$

9

(30) Solve

$2x + 3y = 5$

$4x - 2y = 2$

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

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

$4x + 6y = 10$

$12x - 6y = 6$

$16x = 16$

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

$x = 1$

Subst

$2x + 3y = 5$

$2(1) + 3y = 5$

$2 + 3y = 5$

$2 + 3y - 2 = 5 - 2$

$3y = 3$

$\frac{3y}{3} = \frac{3}{3}$

$y = 1$

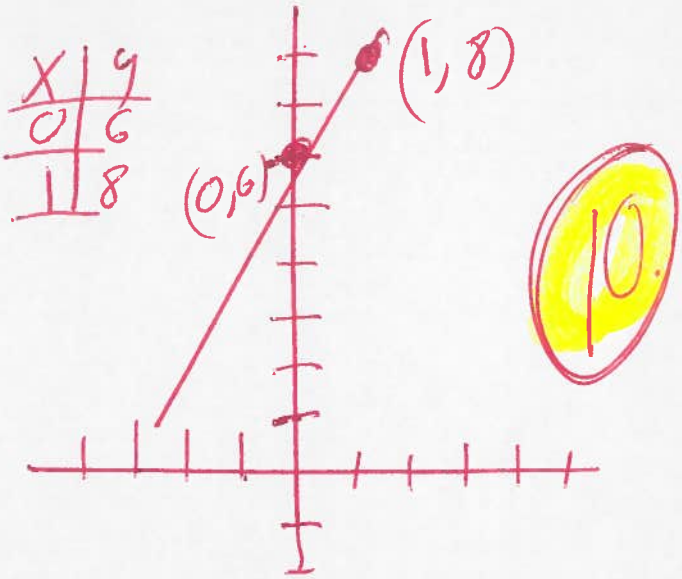
$(x, y) = (1, 1)$

(31) graph $y = 2x + 6$

x	y
0	6
1	8

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

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



10.

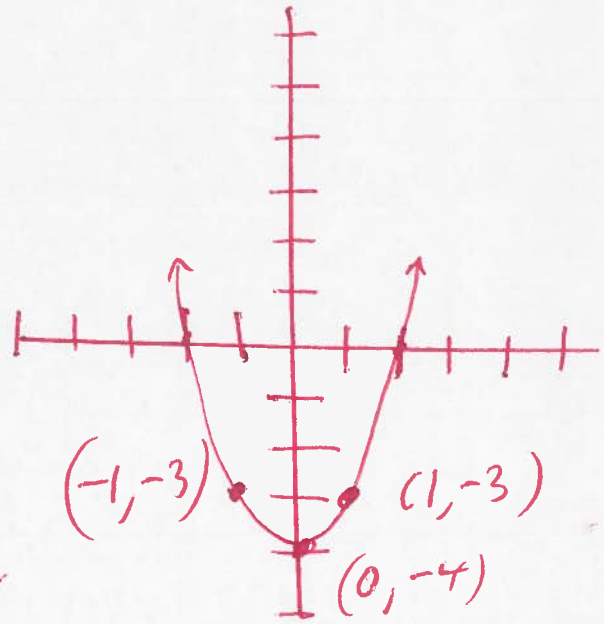
(32) graph $y = x^2 - 4$

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

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

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

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



(33) Graph

$y = |x - 2| + 4$

x	y
1	5
2	4
3	5

$y = |1 - 2| + 4$

$y = |-1| + 4$

$y = 1 + 4$

$y = 5$

$y = |2 - 2| + 4$

$y = |0| + 4$

$y = 0 + 4$

$y = 4$

$y = |3 - 2| + 4$

$y = |1| + 4$

$y = 1 + 4$

$y = 5$