Math 303

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#6. (a) $3-(-2)=3+2=5$ (b) $-3-2=(-3)+(-2)=-5$

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

#7. (a) $3-(-2)=N$ iff $(-2)+N=3$

$N=5$

(b) $-3-2=N$ iff $2+N=-3$

$N=-5$

(c) $(-3)-(-2)=N$ iff $(-2)+N=-3$

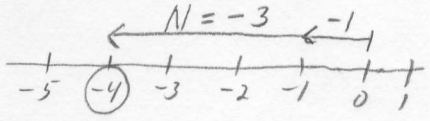
$N=-1$

#8. (a) $-17+10=-7$ The stock had a net loss of 7 points.

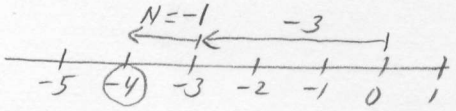
(b) $-10+8=-2$ The new temperature is 2°C below zero.

(c) $5000+(-100)=4900$ The plane's new altitude is 4900 feet.

#10. (a) $(-4)-(-1)$



(b) $(-4)-(-3)$



#11. (a) $-4-3=-7$

$-4-2=-6$

$-4-1=-5$

$-4-0=-4$

$-4-(-1)=-3$

(b) $3-1=2$

$2-1=1$

$1-1=0$

$0-1=-1$

$-1-1=-2$

$-2-1=-3$

#12. (a) $-2+(3-10)=-2+(-7)=-9$

(b) $[8-(-5)]-10=[8+5]-10=13-10=3$

(c) $(-2-7)+10=-9+10=1$

#13. (a) $55-60=-5$ or $55+(-60)=-5$

The temperature is expected to be 5°F below zero at midnight.

(b) $200-220=-20$ or $200+(-220)=-20$

Moses's checking account is overdrawn by $20.

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#15. (a) $3-(2-4x) = 3+(-2+4x)$
$= (3+(-2))+4x$
$= 1+4x$

(b) $x-(-x-y) = x+(x+y)$
$= (x+x)+y$
$= 2x+y$

#16. $a-b-c = a-(b-c)$

$a-b-c = a-b+c$

$a-c = a+c$

$-c = c$

$0 = 2c$

$c = 0$

a & b may be any integers but c must be zero.

#18. (a) $f(-1) = -(-1)-1$
$= 1-1$
$= 0$

(b) $f(100) = -100-1$
$= -101$

(c) $f(-2) = -(-2)-1$
$= 2-1$
$= 1$

(d) $f(-a) = -(-a)-1$
$= a-1$

(e) $-x-1 = 3$

$-x = 4$

$x = -4$

#20. (a) $f(10) = |1-10|$
$= |-9|$
$= 9$

(b) $f(-1) = |1-(-1)|$
$= |1+1|$
$= 2$

(c) $|1-x| = 1$

$1-x = -1$ or $1-x = 1$

$-x = -2$ or $-x = 0$

$x = 2$ or $x = 0$

(d) The set of whole numbers

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#21. (a) $|x-6| = 6$

$x-6 = -6$ or $x-6 = 6$

$x = 0$ or $x = 12$

(b) $|x| + 2 = 10$

$|x| = 8$

$x = -8$ or $x = 8$

(c) $|-x| = |x|$

x may be any integer.

#23. Greatest value $6-(5-4)-(-3) = 6-1+3 = 8$

Least value $(6-5)-(4-(-3)) = 1-7 = -6$

#24. (a) $-12, -15$ the difference is -3.

(b) $x-2y, x-3y$ the difference is $-y$.

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#8. (Answers will vary.)

Pat bought a shirt for $50 and a sweater for $85. Pat also returned a book that cost $30. If Pat paid for each item in cash, what was the net change in the amount of cash Pat has?

NAEP

(b) $32 - N$.

Worksheet

#5. $-4+5=1$ The temperature was 1° above zero at 12:00.

#6. $-9+(-7)=-16$ The temperature was 16° below zero at 10:00.

#7. $-8-(-14)=-8+14=6$ The temperature rose 6° from yesterday to today.

#8. $-15-(-7)=-15+7=-8$ The temperature dropped 8° from yesterday to today.

#9. $1100+843+(-250)+(-782)+(-1360)=-449$

The value of Lynn's five accounts is a deficit of $449.

#10. $-492-(-275)=-492+275=-217$

Pat's credit card balance would be $217.

#11. $-353-(-45)=-353+45=-308$

Kim's correct credit card balance is $308.

#12. $-14+(-8)=-22$ Sam's new score is 22 points in the hole.

#13. $7+(-9)+(-4)+2+(-3)=-7$ I am seven steps backward.

#14. $7+(-4)+(-2)+(-10)-(-5)+4=0$ The team has no total loss or gain.

#15. $5+(-12)+(-3)+18+(-10)=-2$ The stock had a net loss of 2 points.

#16. $-38-(-31)=-38+31=-7$ Fred paid $7 more than Sally.

#17. $50+(-83)+45+(-31)=-19$ Maalu had a decrease of $19 in her account.

#18. $-39-(-27)=-39+27=-12$ Joe owes Mandy $12 more.

#19. $N=-1+2+(-1)=0$ Today is the day before two days after yesterday.

#20. $1{,}429+12{,}200+(-125{,}005)+(-3{,}070)+97{,}592+17{,}180+(-9047)$
$=-8721$

Lynn's seven accounts have a total value of $8721 in the hole.