

A#32

Key

p. 393 #15-32

15. $3|13-2t|=15$

$|13-2t|=5$ III

$13-2t=5$ or $13-2t=-5$

$-2t=-8$ or $-2t=-18$

$t=4$ or $t=9$

$t=4, 9$

16. $4|b-1|-7=17$

$4|b-1|=24$

$|b-1|=6$ III

$b-1=6$ or $b-1=-6$

$b=7$ or $b=-5$

$b=-5, 7$

17. $\frac{1}{3}|2c-5|+3=7$

$\frac{1}{3}|2c-5|=4$

$|2c-5|=12$ III

$2c-5=12$ or $2c-5=-12$

$2c=17$ or $2c=-7$

$c=\frac{17}{2}$ or $c=-\frac{7}{2}$

$c=-\frac{7}{2}, \frac{17}{2}$

18. $\frac{7}{4}|3j+5|+1=15$

$(\frac{4}{7})\frac{7}{4}|3j+5|=14(\frac{4}{7})$

$|3j+5|=8$ III

$3j+5=8$ or $3j+5=-8$

$3j=3$ or $3j=-13$

$j=1$ or $j=-\frac{13}{3}$

$j=-\frac{13}{3}, 1$

19. $4|2k+3|-2=6$

$4|2k+3|=8$

$|2k+3|=2$ III

$2k+3=2$ or $2k+3=-2$

$2k=-1$ or $2k=-5$

$k=-\frac{1}{2}$ or $k=-\frac{5}{2}$

$k=-\frac{5}{2}, -\frac{1}{2}$

20. $-3|5g+1|-6=-9$

$-3|5g+1|=-3$

$|5g+1|=1$ III

$5g+1=1$ or $5g+1=-1$

$5g=0$ or $5g=-2$

$g=0$ or $g=-\frac{2}{5}$

$g=-\frac{2}{5}, 0$

21. This is Case III. 2 solutions, 2 equations $|x+4|=13$

$x+4=13$ or $x+4=-13$

$x=9$ or $x=-17$

$x=-17, 9$

22. This is Case I. $\boxed{\text{No solution}}$

23. $|x-1|+5=2$

$|x-1|=-3$ I

 $\boxed{\text{No solution}}$

24. $|y-4|+8=6$

$|y-4|=-2$ I

 $\boxed{\text{No Solution}}$

25. $|m+5|+1.5=2$

$|m+5|=0.5$ III

$m+5=0.5$ or $m+5=-0.5$

$m=-4.5$ or $m=-5.5$

$m=-5.5, -4.5$

A#32 continued

p. 393 #26-32

Key

26. $-4|8-5n|=13$

$|8-5n| = -\frac{13}{4}$ I

No solution

27. $-3|1-\frac{2}{3}v| = -9$

$|1-\frac{2}{3}v| = 3$ III

$1-\frac{2}{3}v = 3$ or $1-\frac{2}{3}v = -3$

$(-\frac{3}{2})(-\frac{2}{3}v) = 2(-\frac{3}{2})$ or $(\frac{-3}{2})(-\frac{2}{3}v) = (-4)(-\frac{3}{2})$

$v = -3$ or $v = 6$

$v = -3, 6$

28. $-5|\frac{4}{5}w+6| = -10$

$|\frac{4}{5}w+6| = 2$ III

$\frac{4}{5}w+6 = 2$ or $\frac{4}{5}w+6 = -2$

$(\frac{5}{4})\frac{4}{5}w = -4(\frac{5}{4})$ or $(\frac{5}{4})\frac{4}{5}w = -8(\frac{5}{4})$

$w = -5$ or $w = -10$

$w = -10, -5$

29. $-10|14-r| - 2 = -7$

$-10|14-r| = -5$

$|14-r| = \frac{1}{2}$ III

$14-r = \frac{1}{2}$ or $14-r = -\frac{1}{2}$

$-r = -13\frac{1}{2}$ or $-r = -14\frac{1}{2}$

$r = 13\frac{1}{2}$ or $r = 14\frac{1}{2}$

$r = 13\frac{1}{2}, 14\frac{1}{2}$

30. $-2|\frac{1}{3}s-5|+3=8$

$-2|\frac{1}{3}s-5| = 5$

$|\frac{1}{3}s-5| = -\frac{5}{2}$ I

No solution

31. $-9|4p+2| - 8 = -35$

$-9|4p+2| = -27$

$|4p+2| = 3$ III

$4p+2 = 3$ or $4p+2 = -3$

$4p = 1$ or $4p = -5$

$p = \frac{1}{4}$ or $p = -\frac{5}{4}$

$p = -\frac{5}{4}, \frac{1}{4}$

32. $|4x-1|+2=1$

$|4x-1| = -1$ I

No solution \rightarrow D