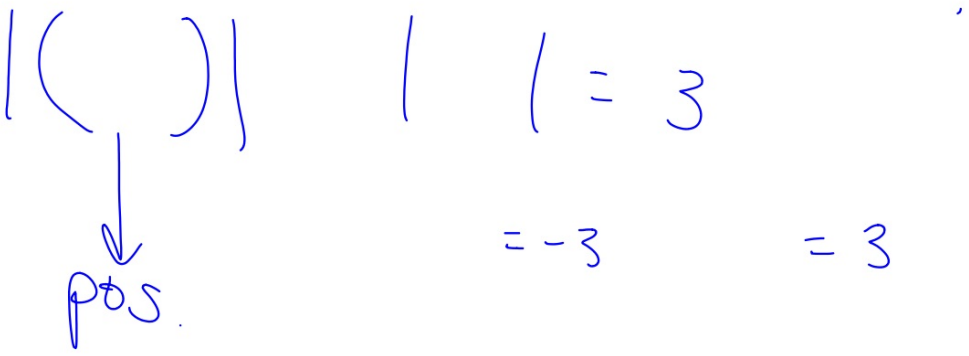
Algebra 1 2.5

Evaluate absolute value expressions
Solve absolute value equations

distance → pos.
absolute value

whiteboards



Evaluate each expression if $f = 3$, $g = -4$, and $h = 5$.

1. $|3 - h| + 13$

$|(3+-5)| + 13$

$|-2| + 13$

$2 + 13$

15

2. $16 - |g + 9|$

$16 - |(-4 + 9)|$

$16 - |5|$

$16 - 5$

11

Solve each equation. Then graph the solution set.

4. $|n + 7| = 5$

$n + 7 = -5$

$-7 \quad -7$

$n = -12$

5. $|3z - 3| = 9$

$3(z-1) = 9$

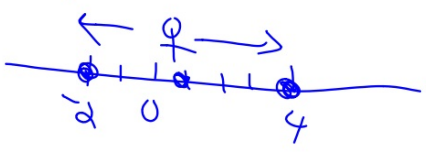
$3z - 3 = -9$ or $3z - 3 = 9$

$+3 \quad +3 \qquad +3 \quad +3$

$\frac{3z}{3} = \frac{-6}{3} \qquad \frac{3z}{3} = \frac{12}{3}$

$z = -2 \qquad z = 4$

$\frac{-12 + -2}{2} = \frac{-14}{2} \qquad \frac{-2+4}{2} = \frac{2}{2} = 1$



9%

15%

10. FINANCIAL LITERACY For a company to invest in a product, they must believe they will receive a 12% return on investment (ROI) plus or minus 3%. Write an equation to find the least and the greatest ROI they believe they will receive.

$|x-12|=3$

$|x-12|=-3$

$x-12=-3$

$+12 \quad +12$

$x=9$

$|x-12|=3$

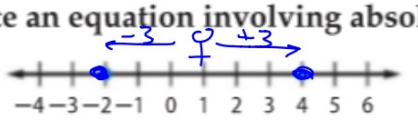
$x-12=3$

$+12 \quad +12$

$x=15$

Write an equation involving absolute value for each graph.

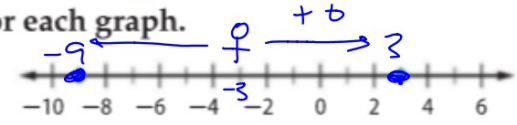
11



$\frac{-2+4}{2}$ $|x-1| = 3$

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

12.



$\frac{-9+3}{2}$ $|x-(-3)| = 6$

$\frac{-6}{2}$ $|x+3| = 6$

-3

Solve each equation. Then graph the solution set.

22. $|n - 3| = 5$

23. $|f + 10| = 1$

25. $|4t - 8| = 20$

26. $|8w + 5| = 21$

$f + 10 = -1$

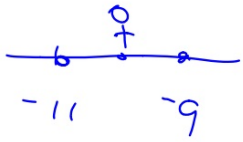
$-10 \quad -10$

$f = -11$

$f + 10 = 1$

$-10 \quad -10$

$f = -9$



2.5 p.105

4-30e