Absolute value and Step Functions … Set 1

Solving Absolute Value Equations

Solve each equation.

1) $|3x| = 9$

2) $|-3r| = 9$

3) $\left|\frac{b}{5}\right| = 1$

4) $|-6m| = 30$

5) $\left|\frac{n}{3}\right| = 2$

6) $|-4 + 5x| = 16$

7) $|-2r - 1| = 11$

8) $|1 - 5a| = 29$

9) $|-2n + 6| = 6$

10) $|v + 8| - 5 = 2$

Absolute value and Step Functions … Set 1

Answers

Solve each equation.

1) $|3x| = 9$

$\{3, -3\}$

2) $|-3r| = 9$

$\{-3, 3\}$

3) $\left|\frac{b}{5}\right| = 1$

$\{5, -5\}$

4) $|-6m| = 30$

$\{-5, 5\}$

5) $\left|\frac{n}{3}\right| = 2$

$\{6, -6\}$

6) $|-4 + 5x| = 16$

$\left\{4, -\frac{12}{5}\right\}$

7) $|-2r - 1| = 11$

$\{-6, 5\}$

8) $|1 - 5a| = 29$

$\left\{-\frac{28}{5}, 6\right\}$

9) $|-2n + 6| = 6$

$\{0, 6\}$

10) $|v + 8| - 5 = 2$

$\{-1, -15\}$

Absolute value and Step Functions … Set 1

11) $|5x| + 5 = 45$

12) $3|-8x| + 8 = 80$

13) $5 - 8|-2n| = -75$

14) $-5|3 + 4k| = -115$

15) $\dfrac{|7p + 4|}{8} = 3$

16) $3 - |8x - 6| = 3$

17) $2 - 5|5m - 5| = -73$

18) $6|1 - 5x| - 9 = 57$

19) $3|3 - 5r| - 3 = 18$

20) $5|9 - 5n| - 7 = 38$

Answers

11) $|5x| + 5 = 45$

$\{8, -8\}$

12) $3|-8x| + 8 = 80$

$\{-3, 3\}$

13) $5 - 8|-2n| = -75$

$\{-5, 5\}$

14) $-5|3 + 4k| = -115$

$\left\{5, -\frac{13}{2}\right\}$

15) $\frac{|7p + 4|}{8} = 3$

$\left\{\frac{20}{7}, -4\right\}$

16) $3 - |8x - 6| = 3$

$\left\{\frac{3}{4}\right\}$

17) $2 - 5|5m - 5| = -73$

$\{4, -2\}$

18) $6|1 - 5x| - 9 = 57$

$\left\{-2, \frac{12}{5}\right\}$

19) $3|3 - 5r| - 3 = 18$

$\left\{-\frac{4}{5}, 2\right\}$

20) $5|9 - 5n| - 7 = 38$

$\left\{0, \frac{18}{5}\right\}$