

Name:

2.1 Extension: Absolute value algebra problems

1. Given $x = -5$ simplify each expression. (try to do them without a calculator)

(a) $|x + 7| =$

(c) $|x| + |x| =$

(b) $|x - 7| =$

(d) $3|x + 3| + x =$

2. Solve the equation $2|x + 3| = 20$ twice. (then check both answers)

(a) Assume $|x + 3|$ is positive

(b) Assume $|x + 3|$ is negative

3. Find all values of x satisfying the equation. (show the two cases and checks)

$$|x - 3| + 3 = 11$$