

## Algebra 1 - 1AL1.1: Opposites & Reciprocals

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### MULTIPLE CHOICE

1. Which number is the same as:  $\frac{3}{15} + \left(\frac{-4}{9}\right)$ ?

a.  $-\frac{11}{45}$

c.  $\frac{11}{45}$

b.  $-1$

d.  $-\frac{1}{45}$

ANS: A

$$\frac{3}{15} + \left(\frac{-4}{9}\right) = \frac{3 \cdot 3}{45} + \frac{-4 \cdot 5}{45} = \frac{9}{45} + \frac{-20}{45} = \frac{-11}{45}$$

PTS: 1                      DIF: Grade 8                      REF: 1AL1.1

OBJ: Students understand and use such operations as taking the opposite, and finding the reciprocal.

TOP: Algebra I                      KEY: opposites | lcd | simplify                      MSC: Dynamic

2. Which number is the same as:  $\frac{-2}{6} + \left(\frac{-13}{16}\right)$ ?

a.  $-15$

c.  $-\frac{55}{48}$

b.  $-\frac{5}{16}$

d.  $\frac{55}{48}$

ANS: C

$$\frac{-2}{6} + \left(\frac{-13}{16}\right) = \frac{-2 \cdot 8}{48} + \frac{-13 \cdot 3}{48} = \frac{-16}{48} + \frac{-39}{48} = \frac{-55}{48}$$

PTS: 2                      DIF: Grade 8                      REF: 1AL1.1

OBJ: Students understand and use such operations as taking the opposite, and finding the reciprocal.

TOP: Algebra I                      KEY: opposites | lcd | simplify                      MSC: Dynamic

3. Which number is the same as:  $\frac{1}{4} - \left(\frac{-9}{14}\right)$ ?

a. 10

c.  $\frac{5}{14}$

b.  $-\frac{11}{28}$

d.  $\frac{25}{28}$

ANS: D

$$\frac{1}{4} + \left(\frac{9}{14}\right) = \frac{1 \cdot 3}{28} + \frac{9 \cdot 5}{28} = \frac{9}{28} + \frac{-20}{28} = \frac{25}{28}$$

PTS: 1                      DIF: Grade 8                      REF: 1AL1.1

OBJ: Students understand and use such operations as taking the opposite and finding the reciprocal.

TOP: Algebra I                      KEY: opposites | lcd | simplify                      MSC: Dynamic

4. Which number is the same as:  $\frac{-1}{3} - \left(-\left(\frac{11}{14}\right)\right)$ ?

a.  $\frac{5}{21}$

c. 10

b.  $\frac{19}{42}$

d.  $-\frac{47}{42}$

ANS: B

$$\frac{-1}{3} + \left(\frac{11}{14}\right) = \frac{-1 \cdot 14}{42} + \frac{11 \cdot 3}{42} = \frac{-14}{42} + \frac{33}{42} = \frac{19}{42}$$

PTS: 2                      DIF: Grade 8                      REF: 1AL1.1

OBJ: Students understand and use such operations as taking the opposite and finding the reciprocal.

TOP: Algebra I                      KEY: opposites | lcd | simplify                      MSC: Dynamic





8. Which number satisfies the equation:  $\frac{1}{10}b = \frac{-5}{24}$  ?

a.  $-\frac{25}{12}$

c.  $\frac{25}{12}$

b.  $\frac{1}{12}$

d.  $-48$

ANS: A

$$\frac{1}{10}b = \frac{-5}{24}$$

$$\frac{1}{10}b = \frac{-5}{24}$$

$$b = \frac{-5}{24} \cdot \frac{10}{1}$$

$$b = \frac{-5}{12} \cdot \frac{5}{1}$$

$$b = \frac{-25}{12}$$

PTS: 1                      DIF: Grade 8                      REF: 1AL1.1

OBJ: Students understand and use such operations as taking the opposite and finding the reciprocal.

TOP: Algebra I                      KEY: opposites | lcd | solve | rational coefficients

MSC: Dynamic