

Addition and Subtraction with
Rational Numbers—Skills Practice

Name: _____

Add integers.

Form A

1 $-5 + (-3) = -8$

2 $14 + (-4) + 6 + (-16) = 0$

3 $9 + (-4) = 5$

4 $15 + (-7) + (-3) = 5$

5 $-17 + 16 = -1$

6 $-18 + (-17) = -35$

7 $14 + (-16) = -2$

8 $-16 + (-7) + (-4) = -27$

9 $-19 + 36 = 17$

10 $19 + 13 + (-9) = 23$

11 $-17 + 14 + 7 + 10 = 14$

12 $-12 + (-7) = -19$

13 $-8 + 14 + (-2) + 6 = 10$

14 $-17 + (-19) = -36$

15 $79 + (-24) = 55$

16 $23 + 14 + (-3) = 34$

17 $-8 + 11 = 3$

18 $-9 + 43 + (-11) = 23$

19 $-6 + 12 + (-12) + 6 = 0$

20 $16 + (-26) = -10$

21 $45 + (-33) = 12$

22 $18 + 19 + (-8) + (-19) + 7 = 17$

23 $15 + (-3) + (-2) + 11 + 9 = 30$

24 $7 + (-14) + (-6) + 13 + 4 = 4$

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Addition and Subtraction with
Rational Numbers—Skills Practice

Name: _____

Add integers.

Form B

1 $-6 + (-4) = -10$

2 $16 + (-8) + (-2) = 6$

3 $17 + (-13) = 4$

4 $13 + (-3) + 7 + (-17) = 0$

5 $-13 + (-16) = -29$

6 $-18 + 17 = -1$

7 $15 + (-18) = -3$

8 $-18 + (-9) + (-2) = -29$

9 $-14 + 32 = 18$

10 $18 + 16 + (-8) = 26$

11 $-14 + 18 + 4 + 10 = 18$

12 $-13 + (-4) = -17$

13 $-16 + (-12) = -28$

14 $-5 + 13 + (-5) + 7 = 10$

15 $86 + (-12) = 74$

16 $26 + 17 + (-6) = 37$

17 $-4 + 12 = 8$

18 $-2 + 64 + (-18) = 44$

19 $-8 + (-2) = -10$

20 $4 + (-5) + (-9) + 10 = 0$

21 $-13 + (-13) = -26$

22 $14 + 7 + (-4) + (-7) + 8 = 18$

23 $16 + (-4) + (-2) + 17 + 13 = 40$

24 $7 + (-14) + (-10) + 17 + 15 = 15$

Fluency Practice

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Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Subtract integers.

Form B

- 1 $-4 - (-19) = 15$ 2 $-7 - 9 - (-7) = -9$ 3 $18 - (-9) = 27$
- 4 $-13 - 11 = -24$ 5 $8 - (-6) - (-4) - 18 = 0$ 6 $-16 - (-8) = -8$
- 7 $2 - (-5) = 7$ 8 $-4 - (-18) - (-4) = 18$ 9 $-73 - (-11) = -62$
- 10 $-3 - 6 - 17 = -26$ 11 $-7 - 14 = -21$ 12 $12 - (-13) = 25$
- 13 $8 - 19 - (-2) - 1 = -10$ 14 $-41 - 38 = -79$ 15 $56 - (-17) - 46 = 27$
- 16 $13 - (-19) = 32$ 17 $35 - (-31) - (-65) = 131$ 18 $18 - 3 - (-2) - 7 = 10$
- 19 $12 - (-6) = 18$ 20 $-15 - 10 = -25$ 21 $14 - (-11) - 21 = 4$
- 22 $-8 - (-16) - 6 - (-38) - 5 = 35$ 23 $-17 - (-19) - (-18) - (-1) - (-7) = 28$
- 24 $-13 - (-12) - 15 - (-8) - 3 = -11$ 25 $-4 - (-8) - 4 - (-12) - 8 = 4$

Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Subtract integers.

Form A

- 1 $-8 - (-14) = 6$ 2 $-8 - 4 - (-8) = -4$ 3 $17 - (-8) = 25$
- 4 $6 - (-7) - (-3) - 16 = 0$ 5 $-12 - 4 = -16$ 6 $-13 - (-7) = -6$
- 7 $6 - (-3) = 9$ 8 $-5 - (-17) - (-5) = 17$ 9 $-62 - (-11) = -51$
- 10 $-4 - 8 - 16 = -28$ 11 $-8 - 15 = -23$ 12 $4 - 17 - (-6) - 3 = -10$
- 13 $11 - (-15) = 26$ 14 $-46 - 21 = -67$ 15 $41 - (-13) - 21 = 33$
- 16 $14 - (-17) = 31$ 17 $55 - (-29) - (-45) = 129$ 18 $8 - (-14) - (-2) - 4 = 20$
- 19 $6 - 7 - (-4) - 3 = 0$ 20 $-25 - 25 = -50$ 21 $30 - (-15) - 40 = 5$
- 22 $-7 - (-14) - 4 - (-27) - 5 = 25$ 23 $-12 - (-7) - (-19) - (-13) - (-2) = 29$
- 24 $-11 - (-5) - 9 - (-13) - (-5) = 3$ 25 $8 - (-3) - 10 - (-12) - (-7) = 20$

Addition and Subtraction with
Rational Numbers—Skills Practice

Name: _____

Add rational numbers.

Form A

1 $-7.25 + 8.67 = \underline{1.42}$

2 $-\frac{5}{6} + 7 + \left(-\frac{1}{6}\right) = \underline{6}$

3 $-5 + \frac{1}{4} = \underline{-4\frac{3}{4}}$

4 $9 + (-10.2) = \underline{-1.2}$

5 $-\frac{1}{8} + \left(-\frac{7}{8}\right) = \underline{-1}$

6 $-\frac{5}{8} + \left(-\frac{1}{8}\right) + \frac{3}{4} = \underline{0}$

7 $15.4 + (-16) = \underline{-0.6}$

8 $-1\frac{2}{5} + \frac{4}{5} = \underline{-\frac{3}{5}}$

9 $-8 + \left(-3\frac{1}{2}\right) = \underline{-11\frac{1}{2}}$

10 $-18.04 + 7.9 = \underline{-10.14}$

11 $-11 + (-4.25) = \underline{-15.25}$

12 $-\frac{5}{6} + \left(-\frac{5}{6}\right) = \underline{-1\frac{2}{3}}$

13 $\frac{2}{3} + \left(-\frac{1}{3}\right) = \underline{\frac{1}{3}}$

14 $5.3 + (-16.4) = \underline{-11.1}$

15 $1\frac{3}{4} + \left(-\frac{1}{2}\right) + \left(-\frac{1}{4}\right) = \underline{1}$

16 $-5.75 + 10 = \underline{4.25}$

17 $-8.9 + (-7.2) + 18.9 = \underline{2.8}$

18 $-4.2 + (-3.7) = \underline{-7.9}$

19 $3.5 + (-13.5) + (-5.6) = \underline{-15.6}$

20 $-3\frac{1}{6} + (-8) = \underline{-11\frac{1}{6}}$

Addition and Subtraction with
Rational Numbers—Skills Practice

Name: _____

Add rational numbers.

Form B

1 $-5.25 + 9.76 = \underline{4.51}$

2 $-\frac{5}{8} + 11 + \left(-\frac{3}{8}\right) = \underline{10}$

3 $-6 + \frac{3}{4} = \underline{-5\frac{1}{4}}$

4 $6 + (-8.2) = \underline{-2.2}$

5 $-1\frac{3}{8} + \frac{5}{8} = \underline{-\frac{3}{4}}$

6 $-2\frac{1}{5} + \frac{3}{5} = \underline{-1\frac{3}{5}}$

7 $14.9 + (-17) = \underline{-2.1}$

8 $-\frac{1}{3} + \left(-\frac{5}{6}\right) + 1\frac{1}{6} = \underline{0}$

9 $-9 + \left(-1\frac{1}{2}\right) = \underline{-10\frac{1}{2}}$

10 $-16.08 + 5.2 = \underline{-10.88}$

11 $-12 + (-6.75) = \underline{-18.75}$

12 $-\frac{3}{4} + \left(-\frac{3}{4}\right) = \underline{-1\frac{1}{2}}$

13 $\frac{4}{5} + \left(-\frac{3}{5}\right) = \underline{\frac{1}{5}}$

14 $3.6 + (-18.8) = \underline{-15.2}$

15 $2\frac{1}{2} + \left(-\frac{1}{8}\right) + \left(-\frac{3}{8}\right) = \underline{2}$

16 $-4.25 + 10 = \underline{5.75}$

17 $-9.1 + (-4.3) + 19.1 = \underline{5.7}$

18 $-4.1 + (-2.8) = \underline{-6.9}$

19 $4.5 + (-8.2) + (-14.5) = \underline{-18.2}$

20 $-4\frac{1}{3} + (-7) = \underline{-11\frac{1}{3}}$



Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Add and subtract rational numbers.

Form A

- 1 $4\frac{3}{4} - (-2\frac{1}{4}) =$ 7
- 2 $-16.5 - 11 =$ -27.5
- 3 $\frac{1}{5} - (-\frac{4}{5}) =$ 1
- 4 $7.75 - 14.25 =$ -6.5
- 5 $-8\frac{1}{3} - (-4) =$ $-\frac{4\frac{1}{3}}{3}$
- 6 $-15.7 - (-16.2) =$ 0.5
- 7 $8.7 - (-5.2) =$ 13.9
- 8 $6\frac{5}{6} - 9\frac{1}{6} =$ $-\frac{2\frac{1}{3} \text{ or } -7}{3}$
- 9 $6.2 - (-6.8) =$ 13
- 10 $11.92 - 4.5 =$ 7.42
- 11 $2\frac{1}{4} - 8\frac{1}{2} + 7\frac{3}{4} =$ $1\frac{1}{2}$
- 12 $4.2 - 17.6 + 5.8 =$ -7.6
- 13 $-12.6 + 4.2 - (-2.6) =$ -5.8
- 14 $-5\frac{2}{5} - 8\frac{4}{5} + 15\frac{2}{5} =$ $1\frac{1}{5}$
- 15 $-6.5 + 11 - (-6.5) =$ 11
- 16 $\frac{1}{6} - (-7) + 3 - (-\frac{5}{6}) =$ 11
- 17 $\frac{1}{4} - 1\frac{3}{4} + 2\frac{3}{4} - (-2\frac{3}{4}) =$ 4
- 18 $-6.1 - 6 - (-6.1) + 16 =$ 10
- 19 $1.25 - 2.75 - (-3.75) + (-7.25) =$ -5
- 20 $8\frac{1}{5} - \frac{3}{5} + (-\frac{4}{5}) - (-1\frac{2}{5}) =$ $8\frac{1}{5}$

Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Add and subtract rational numbers.

Form B

- 1 $5\frac{5}{8} - (-3\frac{3}{8}) =$ 9
- 2 $-14.5 - 8 =$ -22.5
- 3 $9.75 - 16.25 =$ -6.5
- 4 $\frac{1}{6} - (-\frac{5}{6}) =$ 1
- 5 $-6\frac{1}{4} - (-2) =$ $-\frac{4\frac{1}{4}}{4}$
- 6 $-14.3 - (-17.1) =$ 2.8
- 7 $9.2 - (-8.6) =$ 17.8
- 8 $4\frac{2}{5} - 7\frac{1}{5} =$ $-\frac{2\frac{4}{5}}{5}$
- 9 $4.7 - (-9.3) =$ 14
- 10 $9.84 - 8.5 =$ 1.34
- 11 $3\frac{5}{6} - 2\frac{1}{3} + 6\frac{1}{6} =$ $7\frac{2}{3}$
- 12 $6.7 - 19.2 + 3.3 =$ -9.2
- 13 $-13.4 + 3.9 - (-3.4) =$ -6.1
- 14 $-6\frac{1}{2} - 7\frac{1}{2} + 16\frac{1}{2} =$ $2\frac{1}{2}$
- 15 $-4.5 + 13 - (-4.5) =$ 13
- 16 $-4.1 - 8 - (-4.1) + 18 =$ 10
- 17 $\frac{2}{5} - 1\frac{3}{5} + 3\frac{3}{5} - (-3\frac{3}{5}) =$ 6
- 18 $\frac{1}{3} - (-8) + 2 - (-\frac{2}{3}) =$ 11
- 19 $9\frac{3}{8} - \frac{5}{8} + (-\frac{5}{8}) - (-1\frac{1}{4}) =$ $9\frac{3}{8}$
- 20 $4.25 - 16.75 - (-0.75) + (-3.25) =$ -15

Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in adding integers.

Set A

1 $-6 + (-48) + 6 = -48$

2 $-6 + (-148) + 6 = -148$

3 $-16 + (-48) + 16 = -48$

4 $-16 + (-148) + 16 = -148$

5 $-26 + (-48) + 26 = -48$

6 $-26 + (-148) + 26 = -148$

7 $-36 + (-48) + 36 = -48$

8 $-36 + (-148) + 36 = -148$

Set B

1 $-6 + (-48) + 16 = -38$ 2 $-16 + (-48) + 26 = -38$ 3 $-26 + (-48) + 36 = -38$

4 $-6 + (-148) + 16 = -138$ 5 $-16 + (-148) + 26 = -138$ 6 $-26 + (-148) + 36 = -138$

7 $-16 + (-48) + 6 = -58$ 8 $-26 + (-48) + 16 = -58$ 9 $-36 + (-48) + 26 = -58$

10 $-16 + (-148) + 6 = -158$ 11 $-26 + (-148) + 16 = -158$ 12 $-36 + (-148) + 26 = -158$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set A that they can pair numbers by combining the same positive number with the same negative number to get zero. The sum is the other addend in the equation.

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Fluency Practice

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Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in subtracting integers.

Set A

1 $-9 - 37 - (-9) = -37$

2 $-9 - 137 - (-9) = -137$

3 $-19 - 37 - (-19) = -37$

4 $-19 - 137 - (-19) = -137$

5 $-29 - 37 - (-29) = -37$

6 $-29 - 137 - (-29) = -137$

7 $-39 - 37 - (-39) = -37$

8 $-39 - 137 - (-39) = -137$

Set B

1 $-9 - 37 - (-19) = -27$ 2 $-19 - 37 - (-29) = -27$ 3 $-29 - 37 - (-39) = -27$

4 $-9 - 137 - (-19) = -127$ 5 $-19 - 137 - (-29) = -127$ 6 $-29 - 137 - (-39) = -127$

7 $-19 - 37 - (-9) = -47$ 8 $-29 - 37 - (-19) = -47$ 9 $-39 - 37 - (-29) = -47$

10 $-19 - 137 - (-9) = -147$ 11 $-29 - 137 - (-19) = -147$ 12 $-39 - 137 - (-29) = -147$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set A that they can pair numbers by subtracting a negative number from the same negative number to get zero. The difference is the third term on that side of the equation.

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Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in subtracting rational numbers.

Set A

1 $4 - 2 = \underline{2}$

2 $2 - 4 = \underline{-2}$

3 $6 - 5 = \underline{1}$

4 $5 - 6 = \underline{-1}$

5 $8 - 3 = \underline{5}$

6 $3 - 8 = \underline{-5}$

7 $5 - 1.5 = \underline{3.5}$

8 $1.5 - 5 = \underline{-3.5}$

9 $7 - 2.5 = \underline{4.5}$

10 $2.5 - 7 = \underline{-4.5}$

11 $12 - 3.5 = \underline{8.5}$

12 $3.5 - 12 = \underline{-8.5}$

Set B

1 $-3 - 4 = \underline{-7}$

2 $-2 - 4 = \underline{-6}$

3 $-1 - 4 = \underline{-5}$

4 $-4 - 3 = \underline{-7}$

5 $-4 - 2 = \underline{-6}$

6 $-4 - 1 = \underline{-5}$

7 $-13 - 0.5 = \underline{-13.5}$

8 $-12 - 0.5 = \underline{-12.5}$

9 $-11 - 0.5 = \underline{-11.5}$

10 $0.5 - 13 = \underline{-12.5}$

11 $0.5 - 12 = \underline{-11.5}$

12 $0.5 - 11 = \underline{-10.5}$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set A that the difference of $a - b$ is the opposite of the difference of $b - a$. For example, $4 - 2 = 2$ and $2 - 4 = -2$.

Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in adding rational numbers.

Set A

1 $-0.9 + 4.9 + (-4.0) = \underline{0}$

2 $-0.8 + 4.9 + (-4.0) = \underline{0.1}$

3 $-0.7 + 4.9 + (-4.0) = \underline{0.2}$

4 $-0.6 + 4.9 + (-4.0) = \underline{0.3}$

5 $-0.5 + 4.9 + (-4.0) = \underline{0.4}$

6 $-0.4 + 4.9 + (-4.0) = \underline{0.5}$

7 $-0.3 + 4.9 + (-4.0) = \underline{0.6}$

8 $-0.2 + 4.9 + (-4.0) = \underline{0.7}$

9 $-0.1 + 4.9 + (-4.0) = \underline{0.8}$

Set B

1 $-0.9 + 5.9 + (-5.0) = \underline{0}$

2 $-0.9 + 5.8 + (-5.0) = \underline{-0.1}$

3 $-0.9 + 5.7 + (-5.0) = \underline{-0.2}$

4 $-0.9 + 5.6 + (-5.0) = \underline{-0.3}$

5 $-0.9 + 5.5 + (-5.0) = \underline{-0.4}$

6 $-0.9 + 5.4 + (-5.0) = \underline{-0.5}$

7 $-0.9 + 5.3 + (-5.0) = \underline{-0.6}$

8 $-0.9 + 5.2 + (-5.0) = \underline{-0.7}$

9 $-0.9 + 5.1 + (-5.0) = \underline{-0.8}$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. In Set B, students may see that as they decrease the positive addend by 0.1, the sum decreases by 0.1.

Multiplication and Division with Rational Numbers—Skills Practice

Name: _____

Multiply rational numbers.

Form A

1 $-\frac{3}{5} \times \left(-\frac{5}{8}\right) = \frac{15}{40} \text{ or } \frac{3}{8}$

2 $2 \times (-5) \times 3 \times (-4) = 120$

3 $-0.2 \times (-0.4) = 0.08$

4 $-\frac{1}{6} \times \frac{5}{6} = -\frac{5}{36}$

5 $-9 \times (-4) = 36$

6 $-8 \times 7 = -56$

7 $0.2 \times (-0.05) \times 0.3 = -0.003$

8 $-0.6 \times 0.03 = -0.018$

9 $6 \times (-6) = -36$

10 $-\frac{1}{5} \times \frac{3}{5} \times \frac{4}{5} = -\frac{12}{125}$

11 $-\frac{1}{4} \times \left(-\frac{3}{4}\right) = \frac{3}{16}$

12 $-0.5 \times 0.4 \times 0.3 = -0.06$

13 $0.5 \times (-0.7) = -0.35$

14 $-7 \times (-3) \times (-4) = -84$

15 $-7 \times (-4) = 28$

16 $\frac{1}{3} \times \left(-\frac{2}{3}\right) = -\frac{2}{9}$

17 $5 \times (-8) = -40$

18 $-2 \times -6 \times -3 = -36$

19 $-10 \times 14 = -140$

20 $-\frac{5}{8} \times \frac{2}{5} \times \left(-\frac{1}{4}\right) = \frac{10}{160} \text{ or } \frac{1}{16}$

21 $100 \times (-9) = -900$

22 $-\frac{1}{4} \times \frac{3}{2} \times \frac{1}{2} = -\frac{3}{16}$

23 $-0.5 \times 0.1 \times (-0.2) \times (-0.4) = -0.004$

24 $-\frac{1}{2} \times \frac{3}{2} \times \frac{5}{2} \times \left(-\frac{1}{2}\right) = \frac{15}{16}$

Multiplication and Division with Rational Numbers—Skills Practice

Name: _____

Multiply rational numbers.

Form B

1 $\frac{1}{4} \times \left(-\frac{3}{4}\right) = -\frac{3}{16}$

2 $5 \times (-2) \times 6 \times (-3) = 180$

3 $-0.3 \times (-0.2) = 0.06$

4 $-\frac{1}{3} \times \frac{2}{3} = -\frac{2}{9}$

5 $-3 \times (-8) = 24$

6 $-9 \times 6 = -54$

7 $0.3 \times (-0.05) \times 0.6 = -0.009$

8 $-0.4 \times 0.04 = -0.016$

9 $9 \times (-9) = -81$

10 $-\frac{2}{5} \times \frac{1}{5} \times \frac{3}{5} = -\frac{6}{125}$

11 $-\frac{7}{8} \times \left(-\frac{3}{8}\right) = \frac{21}{64}$

12 $-0.2 \times 0.4 \times 0.6 = -0.048$

13 $0.9 \times (-0.5) = -0.45$

14 $-2 \times (-4) \times (-8) = -64$

15 $-7 \times (-3) = 21$

16 $-16 \times 10 = -160$

17 $-\frac{5}{6} \times \frac{2}{5} \times \left(-\frac{1}{8}\right) = \frac{10}{240} \text{ or } \frac{1}{24}$

18 $100 \times (-7) = -700$

19 $-5 \times (-7) = 35$

20 $9 \times (-8) = -72$

21 $-\frac{1}{5} \times \left(-\frac{1}{2}\right) = \frac{1}{10}$

22 $-0.4 \times 0.1 \times (-0.3) \times (-0.5) = -0.006$

23 $-\frac{1}{2} \times \frac{3}{2} \times \left(-\frac{3}{2}\right) \times \left(-\frac{1}{2}\right) = -\frac{9}{16}$

24 $0.5 \times -0.2 \times (-2) \times 5 = 1$





Multiplication and Division with Rational Numbers—Skills Practice

Name: _____

Divide rational numbers.

Form B

1 $-32 \div 8 = \underline{-4}$

2 $-\frac{1}{4} \div \left(-\frac{1}{8}\right) = \underline{\frac{8}{4} \text{ or } 2}$

3 $-4.8 \div 0.1 = \underline{-48}$

4 $-\frac{1}{2} \div \frac{1}{6} = \underline{-3}$

5 $\frac{1}{5} \div \left(-\frac{1}{5}\right) = \underline{-1}$

6 $-7.6 \div (-1) = \underline{7.6}$

7 $-66 \div (-6) = \underline{11}$

8 $8.2 \div (-2) = \underline{-4.1}$

9 $56 \div (-7) = \underline{-8}$

10 $-\frac{5}{6} \div \left(-\frac{1}{2}\right) = \underline{\frac{5}{3} \text{ or } 1\frac{2}{3}}$

11 $-48 \div (-4) = \underline{12}$

12 $\frac{3}{8} \div \left(-\frac{3}{5}\right) = \underline{-\frac{5}{8}}$

13 $-5.4 \div 10 = \underline{-0.54}$

14 $-70 \div 7 = \underline{-10}$

15 $7.5 \div (-2.5) = \underline{-3}$

16 $-\frac{5}{2} \div \frac{5}{8} = \underline{-\frac{40}{10} \text{ or } -4}$

17 $-100 \div (-25) = \underline{4}$

18 $2.5 \div (-0.5) = \underline{-5}$

19 $\frac{1}{5} \div \left(-\frac{1}{3}\right) = \underline{-\frac{3}{5}}$

20 $-39 \div (-0.3) = \underline{130}$

21 $30 \div (-5) = \underline{-6}$

22 $3.2 \div (-8) = \underline{-0.4}$

23 $-4.8 \div 1.2 = \underline{-4}$

24 $\frac{1}{4} \div \left(-\frac{1}{5}\right) = \underline{-\frac{5}{4} \text{ or } -1\frac{1}{4}}$

Multiplication and Division with Rational Numbers—Skills Practice

Name: _____

Divide rational numbers.

Form A

1 $-\frac{1}{3} \div \left(-\frac{1}{6}\right) = \underline{\frac{6}{3} \text{ or } 2}$

2 $56 \div (-8) = \underline{-7}$

3 $-3.6 \div 0.1 = \underline{-36}$

4 $-\frac{1}{2} \div \frac{1}{8} = \underline{-\frac{8}{2} \text{ or } -4}$

5 $-44 \div (-4) = \underline{11}$

6 $-9.8 \div (-1) = \underline{9.8}$

7 $\frac{1}{6} \div \left(-\frac{1}{6}\right) = \underline{-\frac{6}{6} \text{ or } -1}$

8 $6.4 \div (-2) = \underline{-3.2}$

9 $35 \div (-5) = \underline{-7}$

10 $-\frac{3}{4} \div \left(-\frac{1}{2}\right) = \underline{\frac{6}{4} \text{ or } \frac{3}{2} \text{ or } 1\frac{1}{2}}$

11 $-90 \div 9 = \underline{-10}$

12 $\frac{2}{5} \div \left(-\frac{2}{3}\right) = \underline{-\frac{6}{10} \text{ or } -\frac{3}{5}}$

13 $-8.9 \div 10 = \underline{-0.89}$

14 $-36 \div (-3) = \underline{12}$

15 $-24 \div (-0.2) = \underline{120}$

16 $-\frac{5}{3} \div \frac{5}{6} = \underline{-2}$

17 $-100 \div (-50) = \underline{2}$

18 $5.5 \div (-0.5) = \underline{-11}$

19 $\frac{1}{8} \div \left(-\frac{1}{5}\right) = \underline{-\frac{5}{8}}$

20 $-7.5 \div (-2.5) = \underline{3}$

21 $-32 \div 4 = \underline{-8}$

22 $-3.6 \div 1.2 = \underline{-3}$

23 $-42 \div (-6) = \underline{7}$

24 $-\frac{1}{3} \div \left(-\frac{1}{3}\right) = \underline{1}$



Expressing Rational Numbers as Decimals—Skills Practice

Name: _____

Write fractions as decimals.

Form B

1 $-\frac{1}{2} = -0.5$

2 $\frac{3}{5} = 0.6$

3 $-\frac{7}{9} = -0.\overline{7}$

4 $-\frac{1}{5} = -0.2$

5 $-\frac{1}{3} = -0.\overline{3}$

6 $\frac{2}{9} = 0.\overline{2}$

7 $\frac{7}{3} = 2.\overline{3}$

8 $-\frac{9}{5} = -1.8$

9 $-\frac{3}{4} = -0.75$

10 $-\frac{9}{2} = -4.5$

11 $-\frac{6}{5} = -1.2$

12 $-\frac{7}{2} = -3.5$

13 $-\frac{3}{2} = -1.5$

14 $\frac{1}{6} = 0.1\overline{6}$

15 $\frac{11}{9} = 1.\overline{2}$

16 $\frac{11}{6} = 1.8\overline{3}$

17 $-\frac{9}{4} = -2.25$

18 $-\frac{3}{8} = -0.375$

19 $-\frac{9}{8} = -1.125$

20 $\frac{7}{12} = 0.58\overline{3}$

21 $\frac{7}{4} = 1.75$

Fluency Practice

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Expressing Rational Numbers as Decimals—Skills Practice

Name: _____

Write fractions as decimals.

Form A

1 $-\frac{4}{5} = -0.8$

2 $-\frac{1}{2} = -0.5$

3 $-\frac{5}{9} = -0.\overline{5}$

4 $-\frac{2}{3} = -0.\overline{6}$

5 $-\frac{2}{9} = -0.\overline{2}$

6 $\frac{2}{5} = 0.4$

7 $\frac{9}{2} = 4.5$

8 $\frac{5}{3} = 1.\overline{6}$

9 $-\frac{7}{5} = -1.4$

10 $-\frac{1}{4} = -0.25$

11 $-\frac{10}{9} = -1.\overline{1}$

12 $\frac{3}{2} = 1.5$

13 $\frac{7}{2} = 3.5$

14 $\frac{8}{5} = -1.6$

15 $\frac{5}{6} = 0.8\overline{3}$

16 $-\frac{11}{4} = -2.75$

17 $\frac{5}{12} = 0.41\overline{6}$

18 $\frac{7}{6} = 1.1\overline{6}$

19 $-\frac{5}{8} = -0.625$

20 $\frac{5}{4} = 1.25$

21 $\frac{9}{8} = 1.125$

386 Fluency Practice

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Expressing Rational Numbers as Decimals—Repeated Reasoning

Name: _____

Find more patterns with repeating decimals. Write each fraction as a decimal.

Set A

1 $\frac{1}{9} = \underline{0.\overline{1}}$

2 $\frac{2}{9} = \underline{0.\overline{2}}$

3 $\frac{3}{9} = \underline{0.\overline{3}}$

4 $\frac{4}{9} = \underline{0.\overline{4}}$

5 $\frac{5}{9} = \underline{0.\overline{5}}$

6 $\frac{6}{9} = \underline{0.\overline{6}}$

7 $\frac{10}{9} = \underline{1.\overline{1}}$

8 $\frac{11}{9} = \underline{1.\overline{2}}$

9 $\frac{12}{9} = \underline{1.\overline{3}}$

Set B

1 $\frac{1}{11} = \underline{0.\overline{09}}$

2 $\frac{2}{11} = \underline{0.\overline{18}}$

3 $\frac{3}{11} = \underline{0.\overline{27}}$

4 $\frac{4}{11} = \underline{0.\overline{36}}$

5 $\frac{5}{11} = \underline{0.\overline{45}}$

6 $\frac{6}{11} = \underline{0.\overline{54}}$

7 $\frac{7}{11} = \underline{0.\overline{63}}$

8 $\frac{8}{11} = \underline{0.\overline{72}}$

9 $\frac{9}{11} = \underline{0.\overline{81}}$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see that in Set B, when a fraction has 11 as the denominator and the numerator is not evenly divisible by 11, the quotient is a repeating decimal. The repeating decimal is the numerator multiplied by 0.09.

Expressing Rational Numbers as Decimals—Repeated Reasoning

Name: _____

Find patterns with repeating decimals. Write each fraction or fraction sum as a repeating decimal.

Set A

1 $\frac{1}{3} = \underline{0.\overline{3}}$

2 $\frac{2}{3} = \underline{0.\overline{6}}$

3 $\frac{4}{3} = \underline{1.\overline{3}}$

4 $\frac{5}{3} = \underline{1.\overline{6}}$

5 $\frac{7}{3} = \underline{2.\overline{3}}$

6 $\frac{8}{3} = \underline{2.\overline{6}}$

7 $\frac{10}{3} = \underline{3.\overline{3}}$

8 $\frac{11}{3} = \underline{3.\overline{6}}$

9 $\frac{13}{3} = \underline{4.\overline{3}}$

10 $\frac{14}{3} = \underline{4.\overline{6}}$

Set B

1 $\frac{1}{6} = \underline{0.\overline{16}}$

2 $\frac{2}{6} = \underline{0.\overline{3}}$

3 $\frac{3}{6} = \underline{0.5}$

4 $\frac{1}{6} + \frac{3}{6} = \underline{0.\overline{6}}$

5 $\frac{2}{6} + \frac{2}{6} = \underline{0.\overline{6}}$

6 $\frac{4}{6} = \underline{0.\overline{6}}$

7 $\frac{2}{6} + \frac{3}{6} = \underline{0.\overline{83}}$

8 $\frac{1}{6} + \frac{4}{6} = \underline{0.\overline{83}}$

9 $\frac{5}{6} = \underline{0.\overline{83}}$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set A that when increasing the fraction by $\frac{3}{3}$ or 1 whole, the decimal equivalent of the fraction also increases by 1 whole.

Using Properties of Operations— Skills Practice

Name: _____

Write an equivalent expression without parentheses, and combine terms if possible.

Form A

1 $5x + 6x = 11x$

2 $6n - 3(2n - 5) = 15$

3 $0.5(-12p - 4) = -6p - 2$

4 $\frac{1}{4}y + \frac{3}{4}(y - 8) = y - 6$

5 $4(x - 6) + 30 = 4x + 6$

6 $-8(m + \frac{1}{4}) = -8m - 2$

7 $-8x - 4x + 3x + 2 = -9x + 2$

8 $4.5a + 7 + 3.5a + 2 = 8a + 9$

9 $-4 + 7y - 3y - 5 = 4y - 9$

10 $\frac{1}{6}(12n + 36) = 2n + 6$

11 $3(y + 7) - 5y = -2y + 21$

12 $9y - 4x + 3y + 4x = 12y$

13 $8(6a + 7) = 48a + 56$

14 $\frac{1}{6}y + 6 - \frac{7}{6}y - 4 = -y + 2$

15 $\frac{3}{2}x - \frac{1}{2}(x + 4) = x - 2$

16 $6 + 2x + 4(x + 5) = 6x + 26$

17 $-8(x + 3) = -8x - 24$

18 $3y + 3(y - 2.5) = 6y - 7.5$

19 $9(-\frac{1}{3}m + 4) - 6m = -9m + 36$

20 $6.25m + 9 + 3.75m - 12 = 10m - 3$

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Fluency Practice

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Using Properties of Operations— Skills Practice

Name: _____

Write an equivalent expression without parentheses, and combine terms if possible.

Form B

1 $7x + 6x = 13x$

2 $10n - 5(2n - 5) = 25$

3 $\frac{5}{4}x - \frac{1}{4}(x + 12) = x - 3$

4 $4 + 2x + 7(x + 2) = 9x + 18$

5 $6(x - 7) + 50 = 6x + 8$

6 $-6(m + \frac{1}{2}) = -6m - 3$

7 $-3 + 8y - 6y - 4 = 2y - 7$

8 $\frac{1}{4}y + 9 - \frac{5}{4}y - 2 = -y + 7$

9 $9(3a + 8) = 27a + 72$

10 $\frac{1}{8}(16n + 24) = 2n + 3$

11 $-7(x + 4) = -7x - 28$

12 $2y + 3(y - 1.5) = 5y - 4.5$

13 $-9x - 5x + 6x + 3 = -8x + 3$

14 $2.5a + 5 + 4.5a + 3 = 7a + 8$

15 $15(-\frac{1}{5}m + 2) - 4m = -7m + 30$

16 $4.25m + 7 + 6.75m - 11 = 11m - 4$

17 $7(y + 7) - 11y = -4y + 49$

18 $8x - 2 - 5x + 2 = 3x$

19 $0.5(-16p - 6) = -8p - 3$

20 $\frac{1}{5}y + \frac{4}{5}(y - 10) = y - 8$

Fluency Practice

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Using Properties of Operations—
Skills Practice

Name: _____

Use the distributive property to write the expression as a product.
Problems may have more than one answer.

Form B

1 $8x + 8 = 8(x + 1)$

2 $8y + 20 - 12y = 4(5 - y)$

3 $5y + 33 + 6y = 11(y + 3)$

4 $-5x + 18 - 4x = 9(2 - x)$

5 $6 - 18y = 6(1 - 3y)$

6 $-9x - 18 = -9(x + 2)$

7 $-9 + (-27x) = -9(1 + 3x)$

8 $20 - (-6y) = 2(10 + 3y)$

9 $-24x + 18 = 6(-4x + 3)$

10 $16x - 44 = 4(4x - 11)$

11 $4 + (-16y) = 4(1 - 4y)$

12 $3 + 39x = 3(1 + 13x)$

13 $-4x + 28 + 11x = 7(x + 4)$

14 $30y - (-6) = 6(5y + 1)$

15 $-11x - 66 = -11(x + 6)$

16 $20 + 80x = 20(1 + 4x)$

17 $25y - 45 = 5(5y - 9)$

18 $36x - 6 = 6(6x - 1)$

19 $-60y + 90 = 30(-2y + 3)$

20 $24y + (-3) = 3(8y - 1)$

Using Properties of Operations—
Skills Practice

Name: _____

Use the distributive property to write the expression as a product.
Problems may have more than one answer.

Form A

1 $7x + 7 = 7(x + 1)$

2 $6y + 14 - 8y = 2(7 - y)$

3 $25x - 5 = 5(5x - 1)$

4 $16y + (-4) = 4(4y - 1)$

5 $4 - 8y = 4(1 - 2y)$

6 $-8x - 16 = -8(x + 2)$

7 $-11x - 44 = -11(x + 4)$

8 $10 + 70x = 10(1 + 7x)$

9 $10 - (-4y) = 2(5 + 2y)$

10 $-2x + 12 - 4x = 6(2 - x)$

11 $-25y + (-55) = -5(5y + 11)$

12 $20y - (-5) = 5(4y + 1)$

13 $-21x + 14 = 7(-3x + 2)$

14 $18x - 33 = 3(6x - 11)$

15 $4y + 22 + 7y = 11(y + 2)$

16 $-7 + (-21x) = -7(1 + 3x)$

17 $6 + (-12y) = 6(1 - 2y)$

18 $-5x + 33 + 16x = 11(x + 3)$

19 $15y - 35 = 5(3y - 7)$

20 $-40y + 100 = 20(-2y + 5)$



Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $px + q = r$ with integers.

Form B

1 $-4x + 12 = 8$
 $x = 1$

2 $8x + 8 = 0$
 $x = -1$

3 $5x + 6 = -14$
 $x = -4$

4 $-250 = 25x - 75$
 $x = -7$

5 $30 = 20x - 10$
 $x = 2$

6 $38 = 3x + 17$
 $x = 7$

7 $11x - 16 = -49$
 $x = -3$

8 $-18x - 36 = -36$
 $x = 0$

9 $86 = 10x + 26$
 $x = 6$

10 $-8x - 11 = 45$
 $x = -7$

11 $-164 = -50x + 36$
 $x = 4$

12 $0 = 12x - 12$
 $x = 1$

13 $-12 = -9x - 3$
 $x = 1$

14 $9x + 7 = -2$
 $x = -1$

15 $-8x + 23 = 103$
 $x = -10$

16 $-6x + 53 = 5$
 $x = 8$

Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $px + q = r$ with integers.

Form A

1 $6x + 6 = 0$
 $x = -1$

2 $-3x + 9 = 6$
 $x = 1$

3 $5x + 4 = -6$
 $x = -2$

4 $-275 = 25x - 50$
 $x = -9$

5 $90 = 20x - 10$
 $x = 5$

6 $46 = 3x + 19$
 $x = 9$

7 $-15x - 45 = -45$
 $x = 0$

8 $12x - 14 = -38$
 $x = -2$

9 $97 = 10x + 27$
 $x = 7$

10 $-6x - 13 = 35$
 $x = -8$

11 $-127 = -50x + 23$
 $x = 3$

12 $8x + 5 = -3$
 $x = -1$

13 $7x + 4 = -38$
 $x = -6$

14 $-4x - 52 = -152$
 $x = 25$

15 $-8 = -6x - 2$
 $x = 1$

16 $-25 = 10x - 25$
 $x = 0$



Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $px + q = r$ with rational numbers.

Form B

1 $-4x + 8 = 12.8$
 $x = -1.2$

2 $3\frac{1}{6} = -5x + 1\frac{1}{6}$
 $x = -\frac{2}{5}$

3 $-35\frac{1}{4} = -\frac{9}{10}x + \frac{3}{4}$
 $x = 40$

4 $9 = 18 - 0.3x$
 $x = 30$

5 $-4.2x + 9.5 = 5.3$
 $x = 1$

6 $6x - 12\frac{1}{3} = 23\frac{2}{3}$
 $x = 6$

7 $-9.4 = -8.6 + 8x$
 $x = -0.1$

8 $\frac{1}{4}x + \frac{7}{8} = \frac{3}{8}$
 $x = -2$

9 $-0.25x - 8.5 = 2.5$
 $x = -44$

10 $-14.5 = 0.5x - 14.5$
 $x = 0$

11 $1\frac{5}{6} = \frac{1}{2}x + 1$
 $x = \frac{5}{3}$ or $1\frac{2}{3}$

12 $\frac{3}{4}x - 6 = 54$
 $x = 80$

13 $0.2x + 21 = 49.6$
 $x = 143$

14 $0.1x + 4.75 = -1.5$
 $x = -62.5$

Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $px + q = r$ with rational numbers.

Form A

1 $-3x + 6 = 9.9$
 $x = -1.3$

2 $8\frac{3}{5} = -4x + 5\frac{3}{5}$
 $x = -\frac{3}{4}$

3 $1.2x + 5.3 = 0.5$
 $x = -4$

4 $-\frac{1}{4}x + 6 = 10$
 $x = -16$

5 $7 = 11 - 0.2x$
 $x = 20$

6 $0.4x + 15 = 39.8$
 $x = 62$

7 $1\frac{3}{8} = \frac{1}{4}x + 1$
 $x = \frac{3}{2}$ or $1\frac{1}{2}$

8 $\frac{2}{3}x - 4 = 36$
 $x = 60$

9 $\frac{1}{5} = \frac{7}{5} - \frac{1}{10}x$
 $x = 12$

10 $-8.2 = -7.1 + 11x$
 $x = -0.1$

11 $-13\frac{3}{4} = -\frac{7}{10}x + \frac{1}{4}$
 $x = 20$

12 $\frac{1}{8}x + \frac{3}{4} = \frac{1}{4}$
 $x = -4$

13 $-5.6x + 8.8 = 3.2$
 $x = 1$

14 $8x - 4\frac{2}{3} = 19\frac{1}{3}$
 $x = 3$



Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $p(x + q) = r$ with integers.

Form B

1 $8(x + 4) = 32$
 $x = 0$

2 $24 = 4(x + 7)$
 $x = -1$

3 $-9(x + 5) = 54$
 $x = -11$

4 $-5(x - 6) = -15$
 $x = 9$

5 $-12 = -3(x - 7)$
 $x = 11$

6 $10(x + 15) = 40$
 $x = -11$

7 $2(x - 4) = 22$
 $x = 15$

8 $-7(x + 8) = -7$
 $x = -9$

9 $-11(x - 12) = -77$
 $x = 19$

10 $5(x - 16) = 45$
 $x = 25$

11 $25(x - 14) = -75$
 $x = 11$

12 $42 = -6(x + 9)$
 $x = -16$

13 $9(x + 8) = 63$
 $x = -1$

14 $-8(x + 8) = -48$
 $x = -2$

15 $-12 = 3(x - 4)$
 $x = 0$

16 $-2(x + 12) = 24$
 $x = -24$

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Fluency Practice

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Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $p(x + q) = r$ with integers.

Form A

1 $6(x + 4) = 36$
 $x = 2$

2 $21 = 7(x + 3)$
 $x = 0$

3 $56 = -8(x + 9)$
 $x = -16$

4 $2(x - 6) = -26$
 $x = -7$

5 $-4(x - 5) = -44$
 $x = 16$

6 $5(x + 4) = 35$
 $x = 3$

7 $-6(x - 12) = 48$
 $x = 4$

8 $-9 = -9(x + 4)$
 $x = -3$

9 $10(x - 15) = -70$
 $x = 8$

10 $-2(x - 13) = 18$
 $x = 4$

11 $-36 = 12(x + 7)$
 $x = -10$

12 $-7(x + 7) = 49$
 $x = -14$

13 $3(x - 6) = 24$
 $x = 14$

14 $-24 = 4(x - 6)$
 $x = 0$

15 $-11(x + 2) = -66$
 $x = 4$

16 $8(x - 14) = 64$
 $x = 22$

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Fluency Practice

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Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $p(x + q) = r$ with rational numbers.

Form B

$$1 \quad -\frac{1}{4}(x + 7) = \frac{1}{4}$$
$$x = -8$$

$$2 \quad -0.2(p - 4) = -2$$
$$p = 14$$

$$3 \quad 0.5(w + 10) = 5$$
$$w = 0$$

$$4 \quad \frac{3}{8}(y + 9) = \frac{3}{4}$$
$$y = -7$$

$$5 \quad -8.4 = 4(x + 6.3)$$
$$x = -8.4$$

$$6 \quad -75(p - 6) = -7.5$$
$$p = 6.1$$

$$7 \quad \frac{1}{4} = \frac{1}{8}(m - 7)$$
$$m = 9$$

$$8 \quad 3.5 = 5(x + 4)$$
$$x = -3.3$$

$$9 \quad 10(x - 31.4) = 40$$
$$x = 35.4$$

$$10 \quad \frac{1}{6}(n + 5) = -\frac{4}{3}$$
$$n = -13$$

$$11 \quad 11(x - 0.6) = 66$$
$$x = 6.6$$

$$12 \quad 15 = \frac{3}{5}(m + 6)$$
$$m = 19$$

$$13 \quad -\frac{1}{4}(y + 5) = 3$$
$$y = -17$$

$$14 \quad 9.4 = 2(n + 6.5)$$
$$n = -1.8$$

Two-Step Equations—Skills Practice

Name: _____

Solve equations of form $p(x + q) = r$ with rational numbers.

Form A

$$1 \quad -\frac{1}{8}(x + 6) = \frac{1}{8}$$
$$x = -7$$

$$2 \quad 0.25(p + 8) = 2$$
$$p = 0$$

$$3 \quad -0.2(w - 6) = -4$$
$$w = 26$$

$$4 \quad \frac{2}{5}(y + 5) = \frac{4}{5}$$
$$y = -3$$

$$5 \quad -6.9 = 3(x + 4.6)$$
$$x = -6.9$$

$$6 \quad -25(p - 7) = -2.5$$
$$p = 7.1$$

$$7 \quad \frac{1}{3} = \frac{1}{6}(m - 9)$$
$$m = 11$$

$$8 \quad 4.5 = 5(x + 3)$$
$$x = -2.1$$

$$9 \quad 10(x - 24.2) = 50$$
$$x = 29.2$$

$$10 \quad \frac{1}{4}(n + 2) = -\frac{5}{2}$$
$$n = -12$$

$$11 \quad 11(x - 0.4) = 44$$
$$x = 4.4$$

$$12 \quad 20 = \frac{5}{6}(m + 8)$$
$$m = 16$$

$$13 \quad -\frac{1}{5}(y + 2) = 4$$
$$y = -22$$

$$14 \quad 7.6 = 2(n + 5.7)$$
$$n = -1.9$$

Two-Step Equations—Repeated Reasoning

Name: _____

Find patterns in two-step equations of form $px + q = r$. Solve each equation.

Set A

1 $2x + 3 = 19$; $x = 8$

2 $2x + 3 = 20$; $x = \frac{17}{2}$ or $8\frac{1}{2}$

3 $2x + 3 = 21$; $x = 9$

4 $4x + 3 = 19$; $x = 4$

5 $4x + 3 = 20$; $x = \frac{17}{4}$ or $4\frac{1}{4}$

6 $4x + 3 = 21$; $x = \frac{9}{2}$ or $4\frac{1}{2}$

7 $8x + 3 = 19$; $x = 2$

8 $8x + 3 = 20$; $x = \frac{17}{8}$ or $2\frac{1}{8}$

9 $8x + 3 = 21$; $x = \frac{9}{4}$ or $2\frac{1}{4}$

Set B

1 $0.25x - 3 = 2$; $x = 20$

2 $0.25x - 4 = 2$; $x = 24$

3 $0.25x - 5 = 2$; $x = 28$

4 $0.5x - 3 = 2$; $x = 10$

5 $0.5x - 4 = 2$; $x = 12$

6 $0.5x - 5 = 2$; $x = 14$

7 $x - 3 = 2$; $x = 5$

8 $x - 4 = 2$; $x = 6$

9 $x - 5 = 2$; $x = 7$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set B that as the number subtracted increases by 1, the answer changes by $1 \div (\text{coefficient of } x)$. For example, in Set B in problems 4, 5, and 6, each answer increases by $1 \div (0.5) = 2$.

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Fluency Practice

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Two-Step Equations—Repeated Reasoning

Name: _____

Find patterns in two-step equations of form $p(x + q) = r$. Solve each equation.

Set A

1 $3(x + 3) = 30$; $x = 7$

2 $3(x + 4) = 30$; $x = 6$

3 $3(x + 5) = 30$; $x = 5$

4 $3(x + 6) = 30$; $x = 4$

5 $3(x + 7) = 30$; $x = 3$

6 $3(x + 8) = 30$; $x = 2$

7 $3(x + 9) = 30$; $x = 1$

8 $3(x + 10) = 30$; $x = 0$

9 $3(x + 11) = 30$; $x = -1$

Set B

1 $3(x - 2) = 18$; $x = 8$

2 $3(x - 3) = 18$; $x = 9$

3 $3(x - 4) = 18$; $x = 10$

4 $3(x - 5) = 18$; $x = 11$

5 $3(x - 6) = 18$; $x = 12$

6 $3(x - 7) = 18$; $x = 13$

7 $3(x - 8) = 18$; $x = 14$

8 $3(x - 9) = 18$; $x = 15$

9 $3(x - 10) = 18$; $x = 16$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see that, in both sets, they can divide both sides by the same factor and then solve for x by adding or subtracting. As the number that is added to x increases by 1, the solution decreases by 1. As the number that is subtracted increases by 1, the solution increases by 1.

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Fluency Practice

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Two-Step Inequalities—Skills Practice

Name: _____

Solve inequalities with integers.

Form B

1 $12(w - 3) > 60$
 $w > 8$

2 $-5x + 15 > -30$
 $x < 9$

3 $-22 < 11x - 77$
 $x > 5$

4 $-75 > 25(m - 1)$
 $m < -2$

5 $-32 > -8(x - 7)$
 $x > 11$

6 $10x - 4 < -84$
 $x < -8$

7 $40 < 4(n + 14)$
 $n > -4$

8 $-7x - 3 < -45$
 $x > 6$

9 $9(y - 16) < -63$
 $y < 9$

10 $8 < -2(x - 3)$
 $x < -1$

11 $50x + 6 > -94$
 $x > -2$

12 $33 > 3(p + 7)$
 $p < 4$

13 $6 > 8x + 30$
 $x < -3$

14 $-11(x + 7) < -88$
 $x > 1$

15 $5x - 18 < 17$
 $x < 7$

Two-Step Inequalities—Skills Practice

Name: _____

Solve inequalities with integers.

Form A

1 $3(m - 4) < 27$
 $m < 13$

2 $-13 < 4x + 7$
 $x > -5$

3 $-2x + 7 < 19$
 $x > -6$

4 $-45 < 5(p - 2)$
 $p > -7$

5 $21 < -7(x - 2)$
 $x < -1$

6 $-9x + 10 > -8$
 $x < 2$

7 $42 > 6(m + 10)$
 $m < -3$

8 $10(n - 11) > -60$
 $n > 5$

9 $-97 < -11x - 9$
 $x < 8$

10 $25x - 9 < -109$
 $x < -4$

11 $36 < 12(w + 1)$
 $w > 2$

12 $-130 > 50x + 20$
 $x < -3$

13 $-8(x - 3) < -40$
 $x > 8$

14 $2x - 22 > -8$
 $x > 7$

15 $-35 < -5(x + 9)$
 $x < -2$



Two-Step Inequalities—Skills Practice

Name: _____

Solve inequalities with rational numbers.

Form A

1 $0.5x + 0.3 < -0.7$
 $x < -2$

2 $\frac{1}{4}(m + 8) > \frac{1}{2}$
 $m > -6$

3 $4 < -0.2x + 7$
 $x < 15$

4 $-9 < -0.1(y - 5)$
 $y < 95$

5 $-\frac{5}{8}x + 6 < 5$
 $x > \frac{8}{5}$ or $x > 1\frac{3}{5}$

6 $-\frac{1}{6}(x - 24) < 4$
 $x > 0$

7 $1.2m + 6.3 < 1.5$
 $m < -4$

8 $0.5 < 0.25(p + 8)$
 $p > -6$

9 $2.5n - 4.5 < 0.5$
 $n < 2$

10 $-2(y - \frac{1}{4}) > -\frac{1}{2}$
 $y < \frac{1}{2}$

11 $-\frac{1}{4}x + 2\frac{1}{4} < 2$
 $x > 1$

12 $0.8x + 0.6 < 0.6$
 $x < 0$

13 $-\frac{3}{4} > \frac{1}{8}(n + 24)$
 $n < -30$

14 $4 > -\frac{1}{2}x - 5$
 $x > -18$

Two-Step Inequalities—Skills Practice

Name: _____

Solve inequalities with rational numbers.

Form B

1 $0.2x + 0.4 < -0.6$
 $x < -5$

2 $\frac{1}{8}(m + 16) > \frac{1}{2}$
 $m > -12$

3 $-\frac{1}{10}(x - 20) > 2$
 $x < 0$

4 $-\frac{2}{3} > \frac{1}{6}(n + 12)$
 $n < -16$

5 $0.9x + 0.7 > 0.7$
 $x > 0$

6 $-\frac{3}{4}x + 7 < 6$
 $x > \frac{4}{3}$ or $x > 1\frac{1}{3}$

7 $8 > -\frac{1}{2}x - 3$
 $x > -22$

8 $2.5n - 5.5 < 2$
 $n < 3$

9 $-4(y - \frac{1}{8}) > -\frac{1}{2}$
 $y < \frac{1}{4}$

10 $\frac{5}{6}x + 7 < 12$
 $x < 6$

11 $-4.9x + 2.7 < 7.6$
 $x > -1$

12 $-\frac{1}{5}x + 3\frac{1}{5} > 3$
 $x < 1$

13 $9.4 < 8x + 3.8$
 $x > 0.7$

14 $1.1m + 5.1 < 2.9$
 $m < -2$



Two-Step Inequalities—Repeated Reasoning

Name: _____

Find more patterns in two-step inequalities. Solve each inequality.

Set A

1 $2x + 2 > -4$; $x > -3$

2 $-2x + 2 > -4$; $x < 3$

3 $3x + 2 > -4$; $x > -2$

4 $-3x + 2 > -4$; $x < 2$

5 $4x + 2 > -4$; $x > -\frac{3}{2}$ (or $> -1\frac{1}{2}$)

6 $-4x + 2 > -4$; $x < \frac{3}{2}$ (or $< 1\frac{1}{2}$)

Set B

1 $0.5x - 2 > -3$; $x > -2$

2 $-0.5x - 2 > -3$; $x < 2$

3 $0.5x - 3 > -3$; $x > 0$

4 $-0.5x - 3 > -3$; $x < 0$

5 $0.5x - 4 > -3$; $x > 2$

6 $-0.5x - 4 > -3$; $x < -2$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set B that as the coefficient of x changes from positive to negative, the inequality sign in the solution reverses and the value of x changes from positive to negative.

Two-Step Inequalities—Repeated Reasoning

Name: _____

Find patterns in two-step inequalities. Solve each inequality.

Set A

1 $3(x + 1) > 6$; $x > 1$

2 $-3(x + 1) > -6$; $x < 1$

3 $3(x + 1) > 3$; $x > 0$

4 $-3(x + 1) > -3$; $x < 0$

5 $3(x + 1) > 0$; $x > -1$

6 $-3(x + 1) > 0$; $x < -1$

Set B

1 $4(x + 2) > 12$; $x > 1$

2 $-4(x + 2) > -12$; $x < 1$

3 $4(x + 3) > 12$; $x > 0$

4 $-4(x + 3) > -12$; $x < 0$

5 $4(x + 4) > 12$; $x > -1$

6 $-4(x + 4) > -12$; $x < -1$

Describe a pattern you see in one of the sets of problems above.

Answers will vary. Students may see in Set A that as the factor that distributes over the sum in the parentheses and the term on the other side of the inequality change from positive to negative, the inequality sign reverses but the number remains the same. For example, the solution changes from $x > -1$ to $x < -1$.