EPCS

65 W. Demarest Avenue
Englewood, NJ 07631

2024 - 2025 8th Grade Preparation Packet

Welcome to 8th Grade Mathematics! Our 8th Grade Mathematics Course is a comprehensive course that will provide you with the fundamental tools of mathematical understanding that will support you in future math courses. Since you will be taking 8th Grade Mathematics after successful completion of 7th Grade Mathematics, this preparation packet contains review material of the 7th grade concepts, skills, and procedures that should be mastered **BEFORE** entering 8th grade in the fall. Essentially, the packet provides a review of the major 7th grade topics as well as a preview of the 8th grade topics.

Here are some websites you might find particularly useful:

- iReady.com
- http://www.khanacademy.org/
- www.ixl.com/math/
- www.brainpop.com
- www.geogebra.org
- www.math-aids.com
- www.jeopardylabs.com
- www.kutasoftware.com

This collection of problems will identify those concepts you have mastered as well as those you will need to practice and review. You are expected to seek extra help immediately on those concepts with which you have not demonstrated proficiency. Be resourceful - use the online resources.

***** Solve these problems without the use of a calculator and show all work.*****

You will be responsible for handing in the completed packet with all work shown on the first day of school. The problems here are very representative of the types of items you will need to have mastered BEFORE 8th Grade Math… so we strongly encourage you to include this packet in your summer festivities! Good luck and enjoy!

Name: _____ Parent Signature: _____

8th Grade Preparation Packet Score: _____/50

Fluency Table of Contents

Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Add integers.

Form A

1. $-5 + (-3) =$ _____
2. $14 + (-4) + 6 + (-16) =$ _____
3. $9 + (-4) =$ _____
4. $15 + (-7) + (-3) =$ _____
5. $-17 + 16 =$ _____
6. $-18 + (-17) =$ _____
7. $14 + (-16) =$ _____
8. $-16 + (-7) + (-4) =$ _____
9. $-19 + 36 =$ _____
10. $19 + 13 + (-9) =$ _____
11. $-17 + 14 + 7 + 10 =$ _____
12. $-12 + (-7) =$ _____
13. $-8 + 14 + (-2) + 6 =$ _____
14. $-17 + (-19) =$ _____
15. $79 + (-24) =$ _____
16. $23 + 14 + (-3) =$ _____
17. $-8 + 11 =$ _____
18. $-9 + 43 + (-11) =$ _____
19. $-6 + 12 + (-12) + 6 =$ _____
20. $16 + (-26) =$ _____
21. $45 + (-33) =$ _____
22. $18 + 19 + (-8) + (-19) + 7 =$ _____
23. $15 + (-3) + (-2) + 11 + 9 =$ _____
24. $7 + (-14) + (-6) + 13 + 4 =$ _____

Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Subtract integers.

Form A

1. $-8 - (-14) =$ ____
2. $-8 - 4 - (-8) =$ ____
3. $17 - (-8) =$ ____
4. $6 - (-7) - (-3) - 16 =$ ____
5. $-12 - 4 =$ ____
6. $-13 - (-7) =$ ____
7. $6 - (-3) =$ ____
8. $-5 - (-17) - (-5) =$ ____
9. $-62 - (-11) =$ ____
10. $-4 - 8 - 16 =$ ____
11. $-8 - 15 =$ ____
12. $4 - 17 - (-6) - 3 =$ ____
13. $11 - (-15) =$ ____
14. $-46 - 21 =$ ____
15. $41 - (-13) - 21 =$ ____
16. $14 - (-17) =$ ____
17. $55 - (-29) - (-45) =$ ____
18. $8 - (-14) - (-2) - 4 =$ ____
19. $6 - 7 - (-4) - 3 =$ ____
20. $-25 - 25 =$ ____
21. $30 - (-15) - 40 =$ ____
22. $-7 - (-14) - 4 - (-27) - 5 =$ ____
23. $-12 - (-7) - (-19) - (-13) - (-2) =$ ____
24. $-11 - (-5) - 9 - (-13) - (-5) =$ ____
25. $8 - (-3) - 10 - (-12) - (-7) =$ ____

Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Add rational numbers.

Form A

1. $-7.25 + 8.67 =$ _____

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

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

4. $9 + (-10.2) =$ _____

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

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

7. $15.4 + (-16) =$ _____

8. $-1\frac{2}{5} + \frac{4}{5} =$ _____

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

10. $-18.04 + 7.9 =$ _____

11. $-11 + (-4.25) =$ _____

12. $-\frac{5}{6} + \left(-\frac{5}{6}\right) =$ _____

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

14. $5.3 + (-16.4) =$ _____

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

16. $-5.75 + 10 =$ _____

17. $-8.9 + (-7.2) + 18.9 =$ _____

18. $-4.2 + (-3.7) =$ _____

19. $3.5 + (-13.5) + (-5.6) =$ _____

20. $-3\frac{1}{6} + (-8) =$ _____

Addition and Subtraction with Rational Numbers—Skills Practice

Name: _____

Add and subtract rational numbers.

Form A

1. $4\frac{3}{4} - \left(-2\frac{1}{4}\right) =$ _____

2. $-16.5 - 11 =$ _____

3. $\frac{1}{5} - \left(-\frac{4}{5}\right) =$ _____

4. $7.75 - 14.25 =$ _____

5. $-8\frac{1}{3} - (-4) =$ _____

6. $-15.7 - (-16.2) =$ _____

7. $8.7 - (-5.2) =$ _____

8. $6\frac{5}{6} - 9\frac{1}{6} =$ _____

9. $6.2 - (-6.8) =$ _____

10. $11.92 - 4.5 =$ _____

11. $2\frac{1}{4} - 8\frac{1}{2} + 7\frac{3}{4} =$ _____

12. $4.2 - 17.6 + 5.8 =$ _____

13. $-12.6 + 4.2 - (-2.6) =$ _____

14. $-5\frac{2}{5} - 8\frac{4}{5} + 15\frac{2}{5} =$ _____

15. $-6.5 + 11 - (-6.5) =$ _____

16. $\frac{1}{6} - (-7) + 3 - \left(-\frac{5}{6}\right) =$ _____

17. $\frac{1}{4} - 1\frac{3}{4} + 2\frac{3}{4} - \left(-2\frac{3}{4}\right) =$ _____

18. $-6.1 - 6 - (-6.1) + 16 =$ _____

19. $1.25 - 2.75 - (-3.75) + (-7.25) =$ _____

20. $8\frac{1}{5} - \frac{3}{5} + \left(-\frac{4}{5}\right) - \left(-1\frac{2}{5}\right) =$ _____

Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in adding integers.

Set A

1. $-6 + (-48) + 6 =$ _____
2. $-6 + (-148) + 6 =$ _____
3. $-16 + (-48) + 16 =$ _____
4. $-16 + (-148) + 16 =$ _____
5. $-26 + (-48) + 26 =$ _____
6. $-26 + (-148) + 26 =$ _____
7. $-36 + (-48) + 36 =$ _____
8. $-36 + (-148) + 36 =$ _____

Set B

1. $-6 + (-48) + 16 =$ _____
2. $-16 + (-48) + 26 =$ _____
3. $-26 + (-48) + 36 =$ _____
4. $-6 + (-148) + 16 =$ _____
5. $-16 + (-148) + 26 =$ _____
6. $-26 + (-148) + 36 =$ _____
7. $-16 + (-48) + 6 =$ _____
8. $-26 + (-48) + 16 =$ _____
9. $-36 + (-48) + 26 =$ _____
10. $-16 + (-148) + 6 =$ _____
11. $-26 + (-148) + 16 =$ _____
12. $-36 + (-148) + 26 =$ _____

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

_____

_____

_____

Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in subtracting integers.

Set A

1. $-9 - 37 - (-9) =$ _____
2. $-9 - 137 - (-9) =$ _____
3. $-19 - 37 - (-19) =$ _____
4. $-19 - 137 - (-19) =$ _____
5. $-29 - 37 - (-29) =$ _____
6. $-29 - 137 - (-29) =$ _____
7. $-39 - 37 - (-39) =$ _____
8. $-39 - 137 - (-39) =$ _____

Set B

1. $-9 - 37 - (-19) =$ _____
2. $-19 - 37 - (-29) =$ _____
3. $-29 - 37 - (-39) =$ _____
4. $-9 - 137 - (-19) =$ _____
5. $-19 - 137 - (-29) =$ _____
6. $-29 - 137 - (-39) =$ _____
7. $-19 - 37 - (-9) =$ _____
8. $-29 - 37 - (-19) =$ _____
9. $-39 - 37 - (-29) =$ _____
10. $-19 - 137 - (-9) =$ _____
11. $-29 - 137 - (-19) =$ _____
12. $-39 - 137 - (-29) =$ _____

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

_____

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Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in adding rational numbers.

Set A

1. $-0.9 + 4.9 + (-4.0) =$ ____
2. $-0.8 + 4.9 + (-4.0) =$ ____
3. $-0.7 + 4.9 + (-4.0) =$ ____
4. $-0.6 + 4.9 + (-4.0) =$ ____
5. $-0.5 + 4.9 + (-4.0) =$ ____
6. $-0.4 + 4.9 + (-4.0) =$ ____
7. $-0.3 + 4.9 + (-4.0) =$ ____
8. $-0.2 + 4.9 + (-4.0) =$ ____
9. $-0.1 + 4.9 + (-4.0) =$ ____

Set B

1. $-0.9 + 5.9 + (-5.0) =$ ____
2. $-0.9 + 5.8 + (-5.0) =$ ____
3. $-0.9 + 5.7 + (-5.0) =$ ____
4. $-0.9 + 5.6 + (-5.0) =$ ____
5. $-0.9 + 5.5 + (-5.0) =$ ____
6. $-0.9 + 5.4 + (-5.0) =$ ____
7. $-0.9 + 5.3 + (-5.0) =$ ____
8. $-0.9 + 5.2 + (-5.0) =$ ____
9. $-0.9 + 5.1 + (-5.0) =$ ____

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

_____

_____

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Addition and Subtraction with Rational Numbers—Repeated Reasoning

Name: _____

Find patterns in subtracting rational numbers.

Set A

1. $4 - 2 =$ _____
2. $2 - 4 =$ _____
3. $6 - 5 =$ _____
4. $5 - 6 =$ _____
5. $8 - 3 =$ _____
6. $3 - 8 =$ _____
7. $5 - 1.5 =$ _____
8. $1.5 - 5 =$ _____
9. $7 - 2.5 =$ _____
10. $2.5 - 7 =$ _____
11. $12 - 3.5 =$ _____
12. $3.5 - 12 =$ _____

Set B

1. $-3 - 4 =$ _____
2. $-2 - 4 =$ _____
3. $-1 - 4 =$ _____
4. $-4 - 3 =$ _____
5. $-4 - 2 =$ _____
6. $-4 - 1 =$ _____
7. $-13 - 0.5 =$ _____
8. $-12 - 0.5 =$ _____
9. $-11 - 0.5 =$ _____
10. $0.5 - 13 =$ _____
11. $0.5 - 12 =$ _____
12. $0.5 - 11 =$ _____

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

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Multiplication and Division with Rational Numbers—Skills Practice

Name: _____

Multiply rational numbers.

Form A

1. $-\frac{3}{5} \times \left(-\frac{5}{8}\right) =$ _____

2. $2 \times (-5) \times 3 \times (-4) =$ _____

3. $-0.2 \times (-0.4) =$ _____

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

5. $-9 \times (-4) =$ _____

6. $-8 \times 7 =$ _____

7. $0.2 \times (-0.05) \times 0.3 =$ _____

8. $-0.6 \times 0.03 =$ _____

9. $6 \times (-6) =$ _____

10. $-\frac{1}{5} \times \frac{3}{5} \times \frac{4}{5} =$ _____

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

12. $-0.5 \times 0.4 \times 0.3 =$ _____

13. $0.5 \times (-0.7) =$ _____

14. $-7 \times (-3) \times (-4) =$ _____

15. $-7 \times (-4) =$ _____

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

17. $5 \times (-8) =$ _____

18. $-2 \times -6 \times -3 =$ _____

19. $-10 \times 14 =$ _____

20. $-\frac{5}{8} \times \frac{2}{5} \times \left(-\frac{1}{4}\right) =$ _____

21. $100 \times (-9) =$ _____

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

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

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

Multiplication and Division with Rational Numbers—Skills Practice

Name: _____

Divide rational numbers.

Form A

1. $-\frac{1}{3} \div \left(-\frac{1}{6}\right) =$ _____
2. $56 \div (-8) =$ _____
3. $-3.6 \div 0.1 =$ _____
4. $-\frac{1}{2} \div \frac{1}{8} =$ _____
5. $-44 \div (-4) =$ _____
6. $-9.8 \div (-1) =$ _____
7. $\frac{1}{6} \div \left(-\frac{1}{6}\right) =$ _____
8. $6.4 \div (-2) =$ _____
9. $35 \div (-5) =$ _____
10. $-\frac{3}{4} \div \left(-\frac{1}{2}\right) =$ _____
11. $-90 \div 9 =$ _____
12. $\frac{2}{5} \div \left(-\frac{2}{3}\right) =$ _____
13. $-8.9 \div 10 =$ _____
14. $-36 \div (-3) =$ _____
15. $-24 \div (-0.2) =$ _____
16. $-\frac{5}{3} \div \frac{5}{6} =$ _____
17. $-100 \div (-50) =$ _____
18. $5.5 \div (-0.5) =$ _____
19. $\frac{1}{8} \div \left(-\frac{1}{5}\right) =$ _____
20. $-7.5 \div (-2.5) =$ _____
21. $-32 \div 4 =$ _____
22. $-3.6 \div 1.2 =$ _____
23. $-42 \div (-6) =$ _____
24. $-\frac{1}{3} \div \left(-\frac{1}{3}\right) =$ _____

Expressing Rational Numbers as Decimals—Skills Practice

Name: _____

Write fractions as decimals.

Form A

1. $-\frac{4}{5} =$ _____
2. $-\frac{1}{2} =$ _____
3. $-\frac{5}{9} =$ _____
4. $-\frac{2}{3} =$ _____
5. $-\frac{2}{9} =$ _____
6. $\frac{2}{5} =$ _____
7. $\frac{9}{2} =$ _____
8. $\frac{5}{3} =$ _____
9. $-\frac{7}{5} =$ _____
10. $-\frac{1}{4} =$ _____
11. $-\frac{10}{9} =$ _____
12. $\frac{3}{2} =$ _____
13. $\frac{7}{2} =$ _____
14. $-\frac{8}{5} =$ _____
15. $\frac{5}{6} =$ _____
16. $-\frac{11}{4} =$ _____
17. $\frac{5}{12} =$ _____
18. $\frac{7}{6} =$ _____
19. $-\frac{5}{8} =$ _____
20. $\frac{5}{4} =$ _____
21. $\frac{9}{8} =$ _____

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. $\frac{1}{3} =$ _____
2. $\frac{2}{3} =$ _____
3. $\frac{4}{3} =$ _____
4. $\frac{5}{3} =$ _____
5. $\frac{7}{3} =$ _____
6. $\frac{8}{3} =$ _____
7. $\frac{10}{3} =$ _____
8. $\frac{11}{3} =$ _____
9. $\frac{13}{3} =$ _____
10. $\frac{14}{3} =$ _____

Set B

1. $\frac{1}{6} =$ _____
2. $\frac{2}{6} =$ _____
3. $\frac{3}{6} =$ _____
4. $\frac{1}{6} + \frac{3}{6} =$ _____
5. $\frac{2}{6} + \frac{2}{6} =$ _____
6. $\frac{4}{6} =$ _____
7. $\frac{2}{6} + \frac{3}{6} =$ _____
8. $\frac{1}{6} + \frac{4}{6} =$ _____
9. $\frac{5}{6} =$ _____

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

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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. $\frac{1}{9} =$ _____
2. $\frac{2}{9} =$ _____
3. $\frac{3}{9} =$ _____
4. $\frac{4}{9} =$ _____
5. $\frac{5}{9} =$ _____
6. $\frac{6}{9} =$ _____
7. $\frac{10}{9} =$ _____
8. $\frac{11}{9} =$ _____
9. $\frac{12}{9} =$ _____

Set B

1. $\frac{1}{11} =$ _____
2. $\frac{2}{11} =$ _____
3. $\frac{3}{11} =$ _____
4. $\frac{4}{11} =$ _____
5. $\frac{5}{11} =$ _____
6. $\frac{6}{11} =$ _____
7. $\frac{7}{11} =$ _____
8. $\frac{8}{11} =$ _____
9. $\frac{9}{11} =$ _____

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

_____

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Using Properties of Operations—Skills Practice

Name: _____

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

1. $5x + 6x =$ _____

2. $6n - 3(2n - 5) =$ _____

3. $0.5(-12p - 4) =$ _____

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

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

6. $-8\left(m + \frac{1}{4}\right) =$ _____

7. $-8x - 4x + 3x + 2 =$ _____

8. $4.5a + 7 + 3.5a + 2 =$ _____

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

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

11. $3(y + 7) - 5y =$ _____

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

13. $8(6a + 7) =$ _____

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

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

16. $6 + 2x + 4(x + 5) =$ _____

17. $-8(x + 3) =$ _____

18. $3y + 3(y - 2.5) =$ _____

19. $9\left(-\frac{1}{3}m + 4\right) - 6m =$ _____

20. $6.25m + 9 + 3.75m - 12 =$ _____

Using Properties of Operations — Skills Practice

Name: _____

Use the distributive property to write the expression as a product. **Form A**

1. $7x + 7 =$ _____
2. $6y + 14 - 8y =$ _____
3. $25x - 5 =$ _____
4. $16y + (-4) =$ _____
5. $4 - 8y =$ _____
6. $-8x - 16 =$ _____
7. $-11x - 44 =$ _____
8. $10 + 70x =$ _____
9. $10 - (-4y) =$ _____
10. $-2x + 12 - 4x =$ _____
11. $-25y + (-55) =$ _____
12. $20y - (-5) =$ _____
13. $-21x + 14 =$ _____
14. $18x - 33 =$ _____
15. $4y + 22 + 7y =$ _____
16. $-7 + (-21x) =$ _____
17. $6 + (-12y) =$ _____
18. $-5x + 33 + 16x =$ _____
19. $15y - 35 =$ _____
20. $-40y + 100 =$ _____

Two-Step Equations—Skills Practice

Name: _____

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

1. $6x + 6 = 0$

2. $-3x + 9 = 6$

3. $5x + 4 = -6$

4. $-275 = 25x - 50$

5. $90 = 20x - 10$

6. $46 = 3x + 19$

7. $-15x - 45 = -45$

8. $12x - 14 = -38$

9. $97 = 10x + 27$

10. $-6x - 13 = 35$

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

12. $8x + 5 = -3$

13. $7x + 4 = -38$

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

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

16. $-25 = 10x - 25$

Two-Step Equations—Skills Practice

Name: _____

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

1. $-3x + 6 = 9.9$

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

3. $1.2x + 5.3 = 0.5$

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

5. $7 = 11 - 0.2x$

6. $0.4x + 15 = 39.8$

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

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

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

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

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

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

13. $-5.6x + 8.8 = 3.2$

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

Two-Step Equations—Skills Practice

Name: _____

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

1. $6(x + 4) = 36$
2. $21 = 7(x + 3)$
3. $56 = -8(x + 9)$
4. $2(x - 6) = -26$
5. $-4(x - 5) = -44$
6. $5(x + 4) = 35$
7. $-6(x - 12) = 48$
8. $-9 = -9(x + 4)$
9. $10(x - 15) = -70$
10. $-2(x - 13) = 18$
11. $-36 = 12(x + 7)$
12. $-7(x + 7) = 49$
13. $3(x - 6) = 24$
14. $-24 = 4(x - 6)$
15. $-11(x + 2) = -66$
16. $8(x - 14) = 64$

Two-Step Equations—Skills Practice

Name: _____

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

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

2. $0.25(p + 8) = 2$

3. $-0.2(w - 6) = -4$

4. $\frac{2}{5}(y + 5) = \frac{4}{5}$

5. $-6.9 = 3(x + 4.6)$

6. $-25(p - 7) = -2.5$

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

8. $4.5 = 5(x + 3)$

9. $10(x - 24.2) = 50$

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

11. $11(x - 0.4) = 44$

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

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

14. $7.6 = 2(n + 5.7)$

Two-Step Equations—Repeated Reasoning

Name: _____

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

Set A

1. $2x + 3 = 19; x =$ _____
2. $2x + 3 = 20; x =$ _____
3. $2x + 3 = 21; x =$ _____
4. $4x + 3 = 19; x =$ _____
5. $4x + 3 = 20; x =$ _____
6. $4x + 3 = 21; x =$ _____
7. $8x + 3 = 19; x =$ _____
8. $8x + 3 = 20; x =$ _____
9. $8x + 3 = 21; x =$ _____

Set B

1. $0.25x - 3 = 2; x =$ _____
2. $0.25x - 4 = 2; x =$ _____
3. $0.25x - 5 = 2; x =$ _____
4. $0.5x - 3 = 2; x =$ _____
5. $0.5x - 4 = 2; x =$ _____
6. $0.5x - 5 = 2; x =$ _____
7. $x - 3 = 2; x =$ _____
8. $x - 4 = 2; x =$ _____
9. $x - 5 = 2; x =$ _____

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

_____

_____

_____

Two-Step Equations—Repeated Reasoning

Name: _____

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

Set A

1. $3(x + 3) = 30; x =$ _____
2. $3(x + 4) = 30; x =$ _____
3. $3(x + 5) = 30; x =$ _____
4. $3(x + 6) = 30; x =$ _____
5. $3(x + 7) = 30; x =$ _____
6. $3(x + 8) = 30; x =$ _____
7. $3(x + 9) = 30; x =$ _____
8. $3(x + 10) = 30; x =$ _____
9. $3(x + 11) = 30; x =$ _____

Set B

1. $3(x - 2) = 18; x =$ _____
2. $3(x - 3) = 18; x =$ _____
3. $3(x - 4) = 18; x =$ _____
4. $3(x - 5) = 18; x =$ _____
5. $3(x - 6) = 18; x =$ _____
6. $3(x - 7) = 18; x =$ _____
7. $3(x - 8) = 18; x =$ _____
8. $3(x - 9) = 18; x =$ _____
9. $3(x - 10) = 18; x =$ _____

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

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Two-Step Inequalities—Skills Practice

Name: _____

Solve inequalities with integers.

Form A

1. $3(m - 4) < 27$
2. $-13 < 4x + 7$
3. $-2x + 7 < 19$
4. $-45 < 5(p - 2)$
5. $21 < -7(x - 2)$
6. $-9x + 10 > -8$
7. $42 > 6(m + 10)$
8. $10(n - 11) > -60$
9. $-97 < -11x - 9$
10. $25x - 9 < -109$
11. $36 < 12(w + 1)$
12. $-130 > 50x + 20$
13. $-8(x - 3) < -40$
14. $2x - 22 > -8$
15. $-35 < -5(x + 9)$

Two-Step Inequalities—Skills Practice

Name: _____

Solve inequalities with rational numbers.

Form A

1. $0.5x + 0.3 < -0.7$

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

3. $4 < -0.2x + 7$

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

5. $-\frac{5}{8}x + 6 < 5$

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

7. $1.2m + 6.3 < 1.5$

8. $0.5 < 0.25(p + 8)$

9. $2.5n - 4.5 < 0.5$

10. $-2\left(y - \frac{1}{4}\right) > -\frac{1}{2}$

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

12. $0.8x + 0.6 < 0.6$

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

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

Two-Step Inequalities—Repeated Reasoning

Name: _____

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

Set A

1. $3(x + 1) > 6$; x _____
2. $-3(x + 1) > -6$; x _____
3. $3(x + 1) > 3$; x _____
4. $-3(x + 1) > -3$; x _____
5. $3(x + 1) > 0$; x _____
6. $-3(x + 1) > 0$; x _____

Set B

1. $4(x + 2) > 12$; x _____
2. $-4(x + 2) > -12$; x _____
3. $4(x + 3) > 12$; x _____
4. $-4(x + 3) > -12$; x _____
5. $4(x + 4) > 12$; x _____
6. $-4(x + 4) > -12$; x _____

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

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Two-Step Inequalities—Repeated Reasoning

Name: _____

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

Set A

1. $2x + 2 > -4$; x _____
2. $-2x + 2 > -4$; x _____
3. $3x + 2 > -4$; x _____
4. $-3x + 2 > -4$; x _____
5. $4x + 2 > -4$; x _____
6. $-4x + 2 > -4$; x _____

Set B

1. $0.5x - 2 > -3$; x _____
2. $-0.5x - 2 > -3$; x _____
3. $0.5x - 3 > -3$; x _____
4. $-0.5x - 3 > -3$; x _____
5. $0.5x - 4 > -3$; x _____
6. $-0.5x - 4 > -3$; x _____

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

_____

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