

Flex Summer Math Packet Practice: Entering 7th or 8th Grade Pre-Algebra

This packet is designed to help student stay on track over the summer and enter Pre-Algebra confident and prepared for a great school year. Math teachers have selected 6 skills that are important for students' success in Pre-Algebra. If a student struggled with these concepts, we highly recommend they watch the instructional videos and review the notes provided. The instructional videos, available via Khan Academy, may be viewed easily by scanning the QR codes with a smartphone. After watching a video, students can choose to continue watching videos for extra help or work problems live on the site with immediate feedback. **All pages of this packet will be submitted as students' first math grade of the school year. Show ALL work to receive full credit!**

Concept 1: Exponents and Order of Operations

Directions: Solve each problem showing all steps (your thoughts) and circle your answer. Simplify your answer when possible. NO CALCULATOR

1. 8^2

4. $5 \cdot 9^2$

2. $\frac{5(6^2 - 3)}{3^2 + 2}$

5. $9^2 - 4^2$

3. $21 - [2^4 - (7 \cdot 5) - 10] + 8 \cdot 2$

6. $\frac{4 \cdot 8 - 1 \cdot 11}{3(9 - 2^3)}$

Concept 2: Variables, Algebraic Expressions, and Equations

Directions: Solve each problem showing all steps and circle your answer. Simplify your answer when possible. NO CALCULATOR

1. Evaluate when $x=5$, $y=0$, and $z=2$.

$$x^3 - 2z$$

$$4x - 3$$

2. Translate each phrase into a variable expression. Use "x" to represent a number.

a. Five subtracted from a number

b. The product of five and a number

c. Seven more than a number

3. Decide whether a given number is the solution of a given equation. Prove your reasoning.

a. Is 5 a solution of $n + 12 = 20 - 3$? Prove it.

b. Is 14 a solution of $30 = 3(n-3)$? Prove it.

4. Solve the equation using inverse operations. Show your work, do NOT use a calculator.

a. $7n = 77$

b. $n - 25 = 150$

c. $5(n+4) = 90$

Concept 3: Adding, Subtracting, Multiplying, and Dividing with Integers

Directions: Solve each problem and show your work or thoughts.

1. $-3 - 1$

2. $-2 + 9$

3. $125 - (-103)$

4. $100 \div -5$

5. $-7 \times -3 \times 2$

6. $-144 \div -12 + 3$

7. $(-6) + (-14) \times 2$

8. $13 + 20 + (-17) + (-13)$

9. $(-12) - (-11)$

10. $(-126) \div 9 + 3$

Concept 4: Simplifying and Solving Equations by combining like terms and using inverse operations.

Directions: Solve each problem showing all steps and circle your answer. Simplify your answer when possible. NO CALCULATOR

1. Simplify: $8a + a - 7 - 15a$

2. Simplify: $7x + 3(x - 4) + x$

3. Simplify: $-(3m + 2) - m - 10$

4. Simplify: $10 - x + 5x - 12 - 3x$

5. Solve: $7y - 6y = 100 - 105$

6. Solve: $7x + 5 - 6x = -20$

7. Solve: $c - 5 = -13 + 7$

8. Solve: $-14 = 9y + 4$

Concept 5: Adding, subtracting, multiplying, and dividing with fractions

Directions: Solve each problem showing all steps and circle your answer. Simplify your answer when possible. NO CALCULATOR

1. $2\frac{1}{4} + \frac{3}{4} =$

4. $3\frac{15}{20} \div \frac{4}{5} =$

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

5. $4\frac{1}{3} + 2\frac{2}{6} + \frac{4}{12} - \frac{3}{4} =$

3. $\frac{11}{12} \times \frac{2}{4} =$

6. $3\frac{1}{3} \times \frac{2}{6} \times \frac{4}{12} \div \frac{3}{4} =$

7. $\frac{1}{4} + \frac{3}{24} + \frac{7}{8} - \frac{1}{2} =$

8. $2\frac{3}{8} + \frac{2}{20} - 1\frac{1}{5} =$

Concept 6: Adding, subtracting, multiplying, and dividing with decimals

Directions: Solve each problem showing all steps and circle your answer. Simplify your answer when possible. NO CALCULATOR

1. $4.2 \times 3.8 =$

6. $\frac{16.8}{4.2} =$

2. $3 - 1.78 =$

7. $16.2 + 7.58 - 3.6 - 1.4 =$

3. $4.82 \div 4 =$

8. $5.5 \times 3 \times 2.5 \div 1.5 =$

4. $4.3 + 2.6 + 3.72$

9. $6.1 \times 4 + 2.6$

5. $26 \div 3.2$

10. $250 \div 12.5 + 7.3$

Summer Fluency Practice

Directions: You should be fluent in operations with integers. You should be able to complete this worksheet in two minutes to be considered fluent. I have attached two additional practice worksheets (only this one must be completed for credit). You will take a timed test on integers within the first month of school.

$9 - 6 =$

$(-5) + 7 =$

$(-9) + (-2) =$

$7 - (-2) =$

$(-2) + 2 =$

$(-8) - 1 =$

$5 - (-1) =$

$2 + 1 =$

$7 + 1 =$

$15 \div 3 =$

$8 \div (-4) =$

$(-4) - 4 =$

$9 \times (-8) =$

$25 \div (-5) =$

$1 + 7 =$

$4 \div 2 =$

$(-6) \times (-1) =$

$5 \times 6 =$

$16 \div 2 =$

$5 + 5 =$

$(-5) \times (-2) =$

$6 \times (-8) =$

$9 + (-7) =$

$(-27) \div (-3) =$

$9 - 1 =$

$4 \times (-7) =$

$(-2) - 7 =$

$3 + 4 =$

$(-6) - (-1) =$

$5 - (-4) =$

$5 + 4 =$

$(-24) \div 8 =$

$(-9) \div (-1) =$

$(-10) \div 5 =$

$63 \div (-9) =$

$(-6) \div (-6) =$

$(-25) \div (-5) =$

$(-6) \div 3 =$

$4 - (-9) =$

$(-3) - (-1) =$

$2 \times 2 =$

$6 + (-1) =$

$1 + 8 =$

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

$8 \div (-1) =$

$5 \div (-5) =$

$3 \div 3 =$

$(-2) + 1 =$

$9 - 2 =$

$3 - (-3) =$

$9 \times (-9) =$

$6 \times (-3) =$

$4 + 4 =$

$8 \times (-4) =$

$(-6) + (-6) =$

$(-8) - 3 =$

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

$5 + (-6) =$

$(-4) \div (-1) =$

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

$7 \times 6 =$

$(-4) + (-9) =$

$24 \div 6 =$

$(-7) + 2 =$

$21 \div (-7) =$

$(-8) \times (-8) =$

$(-35) \div 7 =$

$(-8) - (-6) =$

$(-9) + (-4) =$

$6 + 4 =$

$(-5) + (-2) =$

$2 + (-9) =$

$4 \times 5 =$

$3 - 7 =$

$(-5) - 6 =$

$9 - 3 =$

$(-1) - (-5) =$

$(-3) - 1 =$

$(-6) + (-9) =$

$5 - 2 =$

$56 \div (-8) =$

$(-72) \div (-8) =$

$(-8) \times (-1) =$

$16 \div (-2) =$

$14 \div 2 =$

$6 + (-8) =$

$28 \div (-7) =$

$(-7) - (-4) =$

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

$6 \div (-1) =$

QR CODES:

Each QR code links to a video lesson on Khan Academy. At the top of the web page, you will notice you have the option to watch additional videos or do practice problems for extra help.

Adding and Subtracting Fractions



Dividing Fractions



Adding Decimals



Subtracting Decimals



Multiplying Decimals

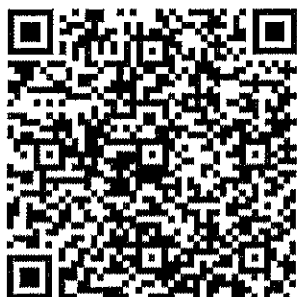


Dividing Decimals



Solving one-step equations

Changing numeric and verbal expressions



Adding and subtracting Integers



Multiplying and Dividing Integers



Combining Like Terms



OPTIONAL: Integer Operation Practice Game: Students should be fluent with adding, subtracting, multiplying, and dividing with integers. This will direct you to a game that is easy to practice integers.

Link: <http://www.hoodamath.com/mobile/games/integerstimedtests.html>

QR Code:

