

## Incoming 7<sup>th</sup> Accelerated Summer Math Skills Review

Welcome incoming students! This packet will help you retain the skills you learned in 6<sup>th</sup> Accelerated so we can continue to build on these when you return in August!

\*\* If you are struggling with any of the skills in this packet, please search the for the skill topic (written in blue) on the Khan Academy website: <https://www.khanacademy.org/> or the Virtual Nerd website: <http://virtualnerd.com/pre-algebra/all/> You can also get extra practice on each skill from the IXL website: IXL.com. You can complete 10 questions a day without a membership.

We look forward to meeting you in August!

### **INTEGERS** (extra practice: IXL.com → 8<sup>th</sup> grade C.3 add and subtract and C.7 multiply and divide)

Addition:

SAME SIGNS: ADD and keep the same sign.

DIFFERENT SIGNS: SUBTRACT the smaller from the larger give the answer the sign of the larger number.

Subtraction:

ADD the opposite for the second number and use the Addition Rule. (ex:  $-6 - 3 = -6 + -3 = -9$ )

Multiplication & Division

Product or Quotient of TWO **same signs** is **positive**.

Product or Quotient of TWO **different signs** is **negative**.

\*\* You MUST know how to complete these problems WITHOUT a calculator! \*\*

$(+4) + (-7) =$	$(-8) \div (+2) =$	$(-9) - (-9) =$
$(-3) - (+6) =$	$(+6) + (-9) =$	$(-7) + (+2) =$
$(-1) \times (+9) =$	$(-8) \times (-6) =$	$(+4) \div (-2) =$
$(+5) \div (-5) =$	$(+4) - (-1) =$	$(-6) \times (+2) =$
$(-8) + (-6) =$	$(+6) \div (+3) =$	$(+8) + (-6) =$

### **ROUNDING DECIMALS**

(extra practice: IXL.com → 7<sup>th</sup> grade D.4, Round decimals)

- Round 8.54 to the nearest tenth
- Round 99.59 to the nearest whole number
- Round 310.286 to the nearest tenth
- Round 6.4 to the nearest whole number
- Round 6.805 to the nearest hundredth
- Round 9.765 to the nearest tenth
- Round 118.387 to the nearest hundredth
- Round 65.85 to the nearest whole number

**ORDER OF OPERATIONS** – perform the operations in the correct order. **SHOW ALL WORK!**  
(extra practice: IXL.com → 8<sup>th</sup> grade, C.8: Evaluate numerical expressions involving integers)

1.  $(-1)^3 \cdot 7 + 4 =$

5.  $10 \div 2 \cdot 4 \div 5 =$

2.  $(-6 + 8) \div -2 =$

6.  $7 \cdot 3 + (2)^3 =$

3.  $8 + 2 \cdot 6 - 5 =$

7.  $11 + 8(6 - 3) =$

4.  $9 - 4 + 2 - 1 + 8 =$

8.  $12 + 4(8 \div 2) =$

**SOLVE PROPORTIONS**

**SHOW ALL WORK** (extra practice: IXL.com → 8<sup>th</sup> grade, J.9: Solve Proportions)

1.  $\frac{10}{8} = \frac{n}{4}$

4.  $\frac{6}{7} = \frac{3}{n}$

7.  $\frac{8}{12} = \frac{6}{n}$

2.  $\frac{9}{6} = \frac{n+4}{10}$

5.  $\frac{10}{n} = \frac{4}{2}$

8.  $\frac{n}{4} = \frac{11}{6}$

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

6.  $\frac{30}{6} = \frac{n}{2}$

9.  $\frac{n-3}{5} = \frac{12}{8}$

## COORDINATE PLANE

(extra practice: IXL.com → 8<sup>th</sup> grade, P.1 Coordinate Plane Review)

Graph and label the following ordered pairs on the given coordinate plane.

Point A (5, 1)

Point B (-3, -8)

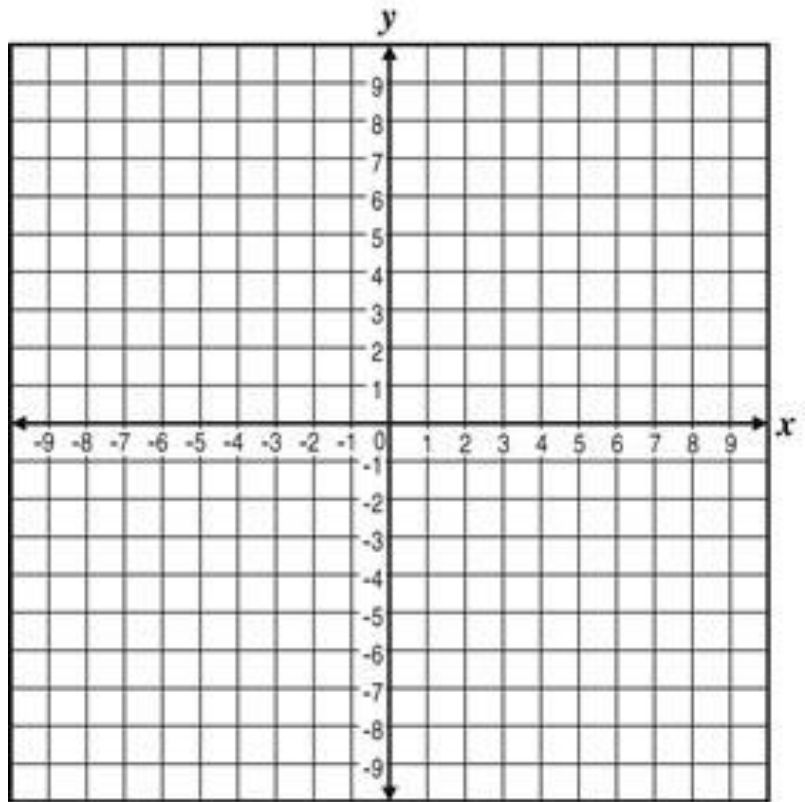
Point C (0, 6)

Point D (-7, 2)

Point E (9, 0)

Point F (4, -5)

Point G (-8, 0)



## SOLVE EQUATIONS – solve for the variable. SHOW ALL WORK to earn credit.

(extra practice: IXL.com → 8<sup>th</sup> grade, Y.7, Y.8, Y.11, Y.12)

1.  $x - 4 = 1$

6.  $5x - x + 4x = 24$

2.  $3x = 15$

7.  $3x + 6x - 7 = 10$

3.  $\frac{x}{2} = 9$

8.  $16 + 5x = 8x - 5$

4.  $-3x + 9 = -6$

5.  $\frac{x}{2} - 10 = 3$

# Big25 Study Guide (with resources)

Question(s)	Skill	Resources
1, 2	Integer Operations	<a href="https://www.thatquiz.org/tq-1/?-j4h03-la-n35-p0">https://www.thatquiz.org/tq-1/?-j4h03-la-n35-p0</a> - That quiz (Adding & Subtracting) <a href="https://www.thatquiz.org/tq-1/?-j4h0c-la-n35-p0">https://www.thatquiz.org/tq-1/?-j4h0c-la-n35-p0</a> - That Quiz (Multiplying Dividing) <a href="https://www.thatquiz.org/tq-1/?-j4h0f-la-n35-p0">https://www.thatquiz.org/tq-1/?-j4h0f-la-n35-p0</a> - That Quiz (All Operations) <ul style="list-style-type: none"> <li>IXL: 8<sup>th</sup> grade - C.3 Add and Subtract Integers</li> <li>IXL: 8<sup>th</sup> grade – C.7 Multiply and Divide Integers</li> </ul>
3, 4	Rounding Decimals	<a href="https://www.thatquiz.org/tq-c/?-jg080-l4-n35-p0">https://www.thatquiz.org/tq-c/?-jg080-l4-n35-p0</a> (that quiz – rounding) <ul style="list-style-type: none"> <li>IXL: 6<sup>th</sup> Grade – F.7 Round Decimals</li> </ul>
5	Simplify Fractions	<ul style="list-style-type: none"> <li><a href="https://www.thatquiz.org/tq-e/?-j1-la-n35-p0">https://www.thatquiz.org/tq-e/?-j1-la-n35-p0</a> (that quiz – simplify) • IXL: 6<sup>th</sup> grade – I.3 write fraction in lowest terms</li> </ul>
6	Solve proportions	<ul style="list-style-type: none"> <li><a href="https://www.thatquiz.org/tq-e/?-jg-l7-n35-p0">https://www.thatquiz.org/tq-e/?-jg-l7-n35-p0</a> (that quiz – solve for x) • IXL: 7<sup>th</sup> grade – J.9 Solve Proportions</li> </ul>
7, 8, 9	Solve equations	<a href="https://www.thatquiz.org/tq-0/?-j102-l2-n35-p0">https://www.thatquiz.org/tq-0/?-j102-l2-n35-p0</a> (that quiz – one and two st equations) <ul style="list-style-type: none"> <li><a href="http://www.aaamath.com/ad28.htm">http://www.aaamath.com/ad28.htm</a> (AAA - solve two step) • IXL: 7<sup>th</sup> grade – S.5 Solve one step equations</li> <li>IXL: 7<sup>th</sup> grade – S.6 Solve two step equations</li> <li>IXL: 7<sup>th</sup> grade - S.8 solve equations involving like terms</li> </ul>
10	Evaluate functions	<ul style="list-style-type: none"> <li><a href="https://www.thatquiz.org/tq-0/?-j100-l4-n35-p0">https://www.thatquiz.org/tq-0/?-j100-l4-n35-p0</a> (that quiz – evaluate) • <a href="http://www.aaamath.com/ad22.htm">http://www.aaamath.com/ad22.htm</a> (evaluate expression) • IXL: 7<sup>th</sup> grade – R.3 evaluate linear expressions</li> </ul>
11	Distributive Property	<a href="https://www.thatquiz.org/tq-0/?-j104-l2-n35-p0">https://www.thatquiz.org/tq-0/?-j104-l2-n35-p0</a> (that quiz – distributiv property) <ul style="list-style-type: none"> <li>IXL: 7<sup>th</sup> grade – R.9 Distributive Property</li> </ul>
12	Radicals	<a href="https://www.thatquiz.org/tq-2/?-j12-l2-n35-p0">https://www.thatquiz.org/tq-2/?-j12-l2-n35-p0</a> (That quiz – simplify radicals) <ul style="list-style-type: none"> <li>IXL: 6<sup>th</sup> grade – D.10 square roots of perfect squares</li> </ul>
13, 14	Combine Like Terms	<a href="https://www.thatquiz.org/tq-0/?-j104-l1-n35-p0">https://www.thatquiz.org/tq-0/?-j104-l1-n35-p0</a> (that quiz – like terms with the same variable) <ul style="list-style-type: none"> <li>IXL: 7<sup>th</sup> grade – R.12 Add and Subtract Like Terms</li> </ul>

15	Simplify Exponents	<a href="https://www.thatquiz.org/tq-2/?-j1-l4-n35-p0">https://www.thatquiz.org/tq-2/?-j1-l4-n35-p0</a> That quiz (positive exponents) <a href="https://www.thatquiz.org/tq-2/?-jg0-l4-n35-p0">https://www.thatquiz.org/tq-2/?-jg0-l4-n35-p0</a> That quiz (negative exponents) <ul style="list-style-type: none"> <li>• IXL: 6<sup>th</sup> grade – D.2 Evaluate exponents</li> <li>• IXL: 6<sup>th</sup> grade – D.7 Evaluate negative exponents</li> </ul>
16	Laws of Exponents	<a href="https://www.thatquiz.org/tq-2/?-i400-l4-n35-p0">https://www.thatquiz.org/tq-2/?-i400-l4-n35-p0</a> Law #1 (multiply bases, add exponents) <a href="https://www.thatquiz.org/tq-2/?-j800-l4-n35-p0">https://www.thatquiz.org/tq-2/?-j800-l4-n35-p0</a> Law #2 (divide bases, subtract exponents) <a href="https://www.thatquiz.org/tq-2/?-jg00-l4-n35-p0">https://www.thatquiz.org/tq-2/?-jg00-l4-n35-p0</a> Law #3 (power to a power, multiply exponents)
17, 18	Order of Operations	<a href="http://www.mathgoodies.com/lessons/vol7/order_operations.html">http://www.mathgoodies.com/lessons/vol7/order_operations.html</a> (examples and practice questions) <ul style="list-style-type: none"> <li>• IXL: 6<sup>th</sup> grade – O.11 perform multiple operations with integers •</li> </ul> <a href="http://www.regentsprep.org/regents/math/algebra/aop2/orderPrac.htm">http://www.regentsprep.org/regents/math/algebra/aop2/orderPrac.htm</a> (practice questions) <ul style="list-style-type: none"> <li>• <a href="http://amby.com/educate/ord-op/pretest.html">http://amby.com/educate/ord-op/pretest.html</a> (practice questions)</li> </ul>
19, 20	Scientific Notation	<a href="https://www.thatquiz.org/tq-c/?-j2g0-l4-n35-p0">https://www.thatquiz.org/tq-c/?-j2g0-l4-n35-p0</a> (scientific to standard form) <a href="https://www.thatquiz.org/tq-c/?-j4g0-l5-n35-p0">https://www.thatquiz.org/tq-c/?-j4g0-l5-n35-p0</a> (write in scientific notation)
21, 22	Slope intercept form	<ul style="list-style-type: none"> <li>• IXL: 7<sup>th</sup> grade – V.4 find the slope from an equation</li> <li>• IXL: 8<sup>th</sup> grade – Y.7 Write a linear equation</li> </ul>

23	Graphing ordered pairs	<ul style="list-style-type: none"> <li>• <a href="https://www.thatquiz.org/tq-7/?-j104-l5-n35-p0">https://www.thatquiz.org/tq-7/?-j104-l5-n35-p0</a> (that quiz – plot) • IXL: 7<sup>th</sup> grade – P.1 Coordinate Plane Review</li> </ul>
24	Pythagorean Theorem	<a href="https://www.thatquiz.org/tq-A/?-j10-la-n35-p0">https://www.thatquiz.org/tq-A/?-j10-la-n35-p0</a> (find missing leg or hypotenuse of a right triangle) <ul style="list-style-type: none"> <li>• IXL: 7<sup>th</sup> grade – Y.1 Pythagorean Theorem find hypotenuse • IXL: 7<sup>th</sup> grade – Y.2 Pythagorean Theorem find the missing leg length</li> </ul>
25	Angle Measures	<ul style="list-style-type: none"> <li>• <a href="https://www.thatquiz.org/tq-C/?-j2-l7-p0">https://www.thatquiz.org/tq-C/?-j2-l7-p0</a> (find angle measure) • IXL: Geometry – D.4 transversal of parallel lines</li> </ul>