

DynaNotes Grade 7 Math Eligible TEKS Review & Intervention Program

Student Activity Book (includes 101 activities) – Four Sample Answer Key Pages

C2, Properties and Order of Operations
Skill Builder

Name _____ Date _____

C2, Constant Rate of Change in Proportions
Skill Developer

Activity 12 – Positive and Negative Rational Number Operations

Add or subtract the following rational numbers. Be sure to show your work. *Hints: For each problem, first decide whether to work in fractions or decimals based on which you think would be easiest. Complete one step at a time.*

1. $3.2 - 4.3 = -(4.3 - 3.2)$ $\begin{array}{r} 4.3 \\ -3.2 \\ \hline 1.1 \end{array}$	2. $13\frac{1}{6} + 8\frac{1}{2}$ $\begin{array}{r} 13\frac{1}{6} + 8\frac{1}{2} \\ \hline 21\frac{2}{3} + 8\frac{1}{2} \\ \hline 22\frac{1}{6} \end{array}$	3. $7.022 - 5.34$ $\begin{array}{r} 7.022 \\ -5.340 \\ \hline 1.682 \end{array}$
4. $13,567.569 + 675.34 + 2.1$ $\begin{array}{r} 13,567.569 \\ 675.340 \\ + 2.100 \\ \hline 14,245.009 \end{array}$	5. $-1.5 - \frac{4}{5}$ $-\frac{3}{2} - \frac{4}{5} = -\frac{15}{10} - \frac{8}{10} = -\frac{23}{10} = -2.3$	6. $0.75 - 6 = -(6 - 0.75)$ $\begin{array}{r} 6.000 \\ -0.750 \\ \hline 5.250 \end{array}$
7. $-7,689 + 1,000 = -(7,689 - 1,000)$ $= -6,689$	8. $6\frac{1}{2} - 0.5$ $6\frac{1}{2} - \frac{1}{2} = 6\frac{0}{2} = 6$	9. $4\frac{5}{16} - 6\frac{3}{32}$ $\begin{array}{r} 4\frac{5}{16} = 4\frac{10}{32} \\ 6\frac{3}{32} = 6\frac{3}{32} \\ \hline 4\frac{10}{32} - 6\frac{3}{32} = -2\frac{23}{32} \end{array}$

Multiply or divide the following rational numbers. Be sure to show your work.

10. $\frac{8}{9} \div \frac{1}{11}$ $\frac{8}{9} \cdot \frac{11}{1} = \frac{88}{9}$	11. $2\frac{2}{5} \div \frac{1}{4}$ $2\frac{2}{5} = \frac{12}{5} \div \frac{1}{4} = \frac{12}{5} \cdot \frac{4}{1} = \frac{48}{5} = 9\frac{3}{5}$	12. $10.05 \div 0.5$ $10.05 \cdot \frac{10}{10} = \frac{100.5}{10} = 10.05$
13. $0.5 \cdot \frac{1}{2} \cdot 5.1 = 3.825$ $\begin{array}{r} 0.5 \\ \times 5.1 \\ \hline 0.51 \\ + 2.55 \\ \hline 3.825 \end{array}$	14. $90\% \cdot 100.06 = 90.054$ $\begin{array}{r} 90\% = 0.9 \\ \times 100.06 \\ \hline 900.54 \end{array}$	15. $4\frac{2}{5} \div \frac{3}{16}$ $4\frac{2}{5} = \frac{22}{5} \div \frac{3}{16} = \frac{22}{5} \cdot \frac{16}{3} = \frac{352}{15} = 23\frac{4}{15}$
16. $-7,600 \cdot 25\%$ $25\% = \frac{1}{4}$ $-7,600 \cdot \frac{1}{4} = -7,600 \div 4 = -1,900$	17. $-1\frac{1}{2} \div 0.75$ $-1\frac{1}{2} = -\frac{3}{2} \div \frac{3}{4} = -\frac{3}{2} \cdot \frac{4}{3} = -2$	18. $3,000 \cdot 2.5\%$ $2.5\% = 0.025 = \frac{25}{1,000}$ $3,000 \cdot \frac{25}{1,000} = 75$

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C2, Properties and Order of Operations
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Activity 19 – Constant of Proportionality Reverse Bingo Game

The collection of nine representations of proportional relationships below is your reverse bingo game board. Work with one other student to set up and play the game. Scissors and a blank sheet of paper are needed. Follow these instructions:

- Make a large 4x4 grid on a blank sheet of paper. In nine of the blank boxes, write "k = _____". In the other seven blank boxes, draw a sad face emotion, such as ☹️.
- Put one of the following constants of proportionality in each of the blanks in the nine boxes (use each number once; do not duplicate): -2, -3, $\frac{1}{2}$, 0.75, $-\frac{3}{2}$, 75, 2, 0.2, and 1.
- Cut the 4x4 grid into 16 cards. Place the sad faces and the unit rate/slope cards face down on the table and mix them up. If you can see the card fronts through their backs, then stack them into a deck to draw from.
- The younger player starts the game by drawing one card. If it is a sad face, the player puts the card face down in a personal discard pile. If it has a k constant on it, the player writes that value on top of the correct representation on his/her game board, and then puts the card face down in his/her discard pile. If a player successfully challenges a selection, the challenger gets the card and the next turn. If there is no challenge, it is the other player's turn.
- Play continues until one player has drawn the cards and written the constants on three representations in a row, column, or diagonal. When this happens, the player says "Bingo!" and wins the game. If all the draw pile cards have been drawn without any bingo, then the players continue the game by drawing from each other's discard piles.

A $\{(1, 1); (0, 0); (-1, -1)\}$ <div style="text-align: center; font-size: 2em; font-weight: bold;">1</div>	B <div style="text-align: center; font-size: 2em; font-weight: bold;">0.75</div>	C y increases by 1 unit for each 5 unit increase in x <div style="text-align: center; font-size: 2em; font-weight: bold;">0.2</div>
D <div style="text-align: center; font-size: 2em; font-weight: bold;">2</div>	E y decreases by 6 units for each 2 unit increase in x <div style="text-align: center; font-size: 2em; font-weight: bold;">-3</div>	F $150 = k(2)$ <div style="text-align: center; font-size: 2em; font-weight: bold;">75</div>
G 4 grams of water evaporate from the beaker every 2 minutes (change in grams of water/min) <div style="text-align: center; font-size: 2em; font-weight: bold;">-2</div>	H $\{(0, 0); (-2, -1)\}$ <div style="text-align: center; font-size: 2em; font-weight: bold;">1/2</div>	I $-90 = k(270)$ <div style="text-align: center; font-size: 2em; font-weight: bold;">-1/3</div>

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C2, Representing Linear Relationships
Skill Extender

Name _____ Date _____

C3, Lateral and Total Surface Area of 3-D Figures
Skill Checker

Activity 32 – Portrait Package Activity

Situation: Veronica and Gary run a photography studio. They charge each customer a sitting fee of \$20. Veronica takes the photographs. Afterward, Gary shows the photos to the customers on a computer monitor. It is Gary's job to sell as many printed portraits as he can for \$15.00 each.

1. Veronica and Gary want to create a flyer that shows their pricing. Represent the relationship between their total charge and the number of printed portraits ordered in both the table and graph below.

Number of Portraits	Total Charge
0	\$20
1	\$35
2	\$50
3	\$65
4	\$80
5	\$95
6	\$110
7	\$125
8	\$140
9	\$155

2. Draw a line between each term in Column A to its matching variable in Column B for equation $y = mx + b$. Then draw a line from each variable in Column B to its description in Column C for this situation.

Column A rate of change dependent variable initial condition independent variable	Column B x y m b	Column C \$20 sitting fee \$15 per portrait number of portraits total charge (\$)
------------------------------------------------------------------------------------------------------	---------------------------------------------	------------------------------------------------------------------------------------------------------

3. Complete the following sentence to represent the linear relationship. Be sure to include the correct units. The total charge is \$20 more than \$15/portrait times the number of portraits.

4. Write an equation in the form $y = mx + b$ that represents the relationship between x and y .

$$y = 15x + 20$$

5. Veronica and Gary run a sale one Saturday for 50% off the sitting fee. Add a dashed line labeled "A" to the graph to show how total charges vary with number of portraits during the Saturday sale. *See graph above.*

6. Veronica and Gary run a sale one Monday for one-third of all portraits. Add a dashed line labeled "B" to the graph to show how total charges vary with number of portraits during the Monday sale. *See graph above.*

7. Describe a real-world situation (other than this one) in which one variable varies linearly with a second variable, but the variables are not proportional to one another.
Answers will vary.

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C2, Properties and Order of Operations
Skill Builder

Name _____ Date _____

C3, Lateral and Total Surface Area of 3-D Figures
Skill Checker

Activity 67 – Lateral and Total Surface Area of 3-D Figures Checkup

1. Rex uses a net to determine the total surface area of a rectangular prism. Which of the following is a 2-D net of a 3-D rectangular prism?

A
 B
 C
 D

2. Jake designs a box to hold a stack of pizza slices. It is a triangular prism represented by the net at right. What is the lateral surface area of Jake's box?

A 96 in.²
 B 128 in.²
 C 144 in.²
 D 224 in.²

3. The net below represents a 3-D figure. How many square units of total surface area does the 3-D figure have? Record your answer and fill in the bubbles.

A 9.23
 B 10.23
 C 11.23
 D 12.23

4. Mia needs to determine the total surface area of the 3-D figure at right. Which of the following could be an appropriate net for Mia to use?

A
 B
 C
 D Not here

5. The net at right represents a large sculpture in the park which rests on its base. Monica is hired to paint the part of the sculpture that people can see. How much surface area does Monica need to paint?

A 7.42 m²
 B 14.84 m²
 C 20.15 m²
 D 22.68 m²

6. Maggie cuts apart a tissue box and lays it flat. She records the measurements shown in the diagram at right. What was the total surface area of the tissue box?

A 50 in.²
 B 120 in.²
 C 170 in.²
 D 320 in.²

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Grade 7 Math Program Materials: 1 Teacher CD (Lessons/Warm-ups, Explicit Instruction, TEKS Alignment, Answer Key) + 30 Student Course Notes + 1 Reproducible Activity Book¹	Student Activity Books (for program users only)
Order Code, Price: 07MESRIP, \$278.50²	Subscriber Code, Price: 07MESRIPs, \$100.00³
07MESRIP-AB	\$9.50

¹May be copied by one teacher for his/her classroom use only. ³Identical program, except without printed course notes; available for DynaNotes Digital Subscribers only.

²Thumb drive for CD upgrade: add \$8.95 to price; add "-id" to order code.

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