Name _____ **Period** _____ **Date** _____

Chapter 3 – Applying Rational Numbers PRACTICE/REVIEW

Test designed with the expectation that students will use calculators

Common Core Standards

CC7.NS.1: *Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram*. (#1 - 3)

CC7.NS.2: *Apply and extend previous understandings of multiplication and division of fractions to multiply and divide rational numbers.* (#4 - 6)

CC7.NS.3: *Solve real-world and mathematical problems involving the four operations with rational numbers.* (#19 - 22)

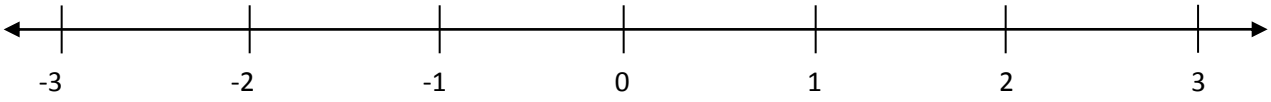
CC7.EE.4: *Use variables to represent quantities in a real-world or mathematical problems and construct simple equations and inequalities* to solve problems by reasoning about the quantities.*

*(*inequalities tested in a later unit) Multi-step equations* (#7 -14)

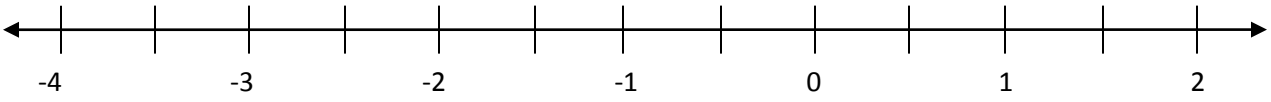
Variables and both sides of the equation (#15 - 18)

Solve and model each sum or difference on a number line. (Level 3/Proficient)

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



2. $-1\frac{1}{3} - (-\frac{5}{6}) =$ _____



3. $-4.75 - 1.25 =$ _____

Solve. (Level 2/Basic)

4. $-3\frac{7}{8} \bullet 2\frac{3}{4} =$

5. $-\frac{3}{5} \div \frac{5}{9} =$

6. 8.2 • - 6.5 =

Solve using the symbolic method. Show all your steps. (Level 3/Proficient)

7. $\frac{a}{4} + 46 = 148$

8. $-6y + 13 = -65$

9. $5n - 2.8 = 7.2$

10. Leo bought three sweatshirts. He spent a total of $104.97. Select **ALL** equation(s) that can be used to find the cost of each CD.

Yes or No		Equation
Yes	No	$c - 3 = 104.97$
Yes	No	$\frac{c}{3} = 104.97$
Yes	No	$3c = 104.97$
Yes	No	$c = 104.97 \times 3$

Solve using the symbolic method. Show all your steps. (Level 3/Proficient)

11. $3t - 12 - t = 18$

12. $-4 = 5(x - \frac{3}{4}) - 20$

13. $-2(y + 8) - 6 = 4.2$

14. $\frac{4n + 5}{-7} = 1$

(Level 4/Advanced)

*15. $7n + 19 = -2n + 37$

*16. $\frac{4}{5}y + 15 = \frac{1}{5}y - 45$

*17. $6x = 2.5x - 7$

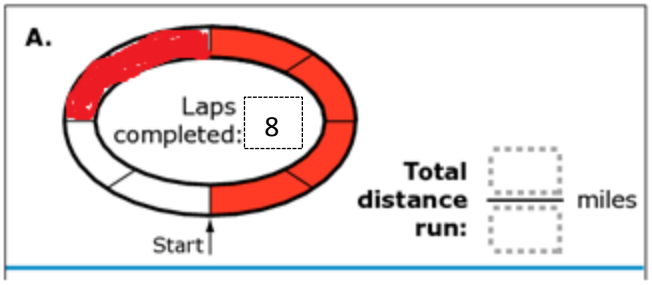
18. Members at the local fitness center pay $8 per class plus a one-time $100 membership fee. Non-members pay $12 per class. How many classes would a member have to take to save money compared to taking classes as a non-member? *Justify your answer using words and numbers.*

19. Your cell phone bill is automatically deducting $37.50 from your bank account every month. How much will the deductions total for the year? *Show your work and state your answer in a complete sentence.* (Level 3/Proficient)

20. A treadmill counts $\frac{1}{4}$ mile run as one lap. (Level 3/Proficient)

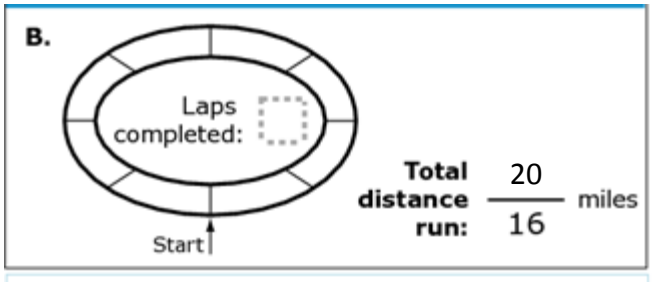
The display on the treadmill shows the total number of laps run, and highlights the portion of the current lap that has been completed.

A. Complete the **total distance** run for the display shown.



B. Create a display that shows a total of $\frac{20}{16}$ miles run.

- In the box provided write the number of ¼- mile laps that were completed.
- Shade in one or more sections to show how much of the current ¼ mile lap has been completed.



21. Jacob is two times the age of Mark. Janelle is one year older than Jacob. Their ages total 31. How old is everyone?

22. Sarah got a 90% on her first science test, a 75% on the second, and a 78% on the third test. What will she have to score on the fourth test to have a solid B average of 85%?

Which problem(s) was/were the hardest for you?

What was it about the problem you didn't understand?

What did you do to help yourself understand and solve those you found difficult?

Are there any problems that you are still not quite sure you understand? Which one(s)?