

2021 Grade: 7 Pre-Algebra Summer Practice

Below is optional summer practice for those students who are interested in reinforcing concepts covered during this past school year. The purpose is to give students the opportunity to practice previously learned material based on the standards for the completed grade level and to maintain a solid mathematical foundation to adequately prepare for the 2021-2022 school year. Please note that these problems are optional.

Section 1: NO CALCULATOR

Part 1:

For Exercises 1-16, find the sum or difference.

1. $\frac{2}{5} + \frac{7}{9}$

2. $\frac{3}{4} + \frac{5}{6}$

3. $\frac{3}{4} - \frac{1}{5}$

4. $\frac{8}{9} + \frac{7}{15}$

5. $9\frac{8}{10} + 8\frac{2}{10}$

6. $15\frac{2}{5} - 5\frac{4}{7}$

7. $71\frac{1}{5} - 5\frac{2}{3}$

8. $99\frac{9}{19} + \frac{1}{5}$

9. $\frac{2}{3} + \frac{2}{3}$

10. $\frac{7}{10} - \frac{3}{10}$

11. $\frac{7}{12} - \frac{1}{4}$

12. $\frac{1}{6} + \frac{3}{4}$

13. $4\frac{3}{8} + 2\frac{5}{8}$

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

15. $11 - 3\frac{1}{8}$

16. $7\frac{2}{5} + 3\frac{1}{4}$

Part 2:

For Exercises 17-24, find the product or quotient.

17. $\frac{3}{8} \cdot \frac{2}{5}$

18. $\frac{1}{4}$ of $\frac{4}{5}$

19. $\frac{5}{6}$ of 30

20. $2\frac{7}{8} \cdot \frac{4}{5}$

21. $\frac{3}{5} \div \frac{1}{5}$

22. $9 \div \frac{3}{4}$

23. $\frac{5}{6} \div \frac{3}{8}$

24. $3\frac{2}{3} \div 2\frac{1}{2}$

Part 3:

For Exercises 25-29, compare each pair of fractions. Use $<$, $=$, or $>$.

25. $\frac{1}{4} \square \frac{2}{9}$

26. $\frac{3}{7} \square \frac{1}{2}$

27. $\frac{2}{5} \square \frac{4}{10}$

28. $\frac{5}{6} \square \frac{7}{8}$

29. $\frac{3}{5} \square \frac{2}{3}$

Part 4:

For Exercises 30-35, write each fraction as a decimal.

30. $\frac{4}{5}$

31. $\frac{1}{9}$

32. $\frac{7}{8}$

33. $\frac{13}{4}$

34. $\frac{28}{8}$

35. $\frac{100}{6}$

Section 2: Constructed Response Tasks

CRT: Answer each part of each question fully.

1)

Brianna's teacher asks her which of these three expressions are equivalent to each other.

$$\text{Expression A: } 9x - 3x - 4$$

$$\text{Expression B: } 12x - 4$$

$$\text{Expression C: } 5x + x - 4$$

Brianna says that all three expressions are equivalent because the value of each one is -4 when $x = 0$.

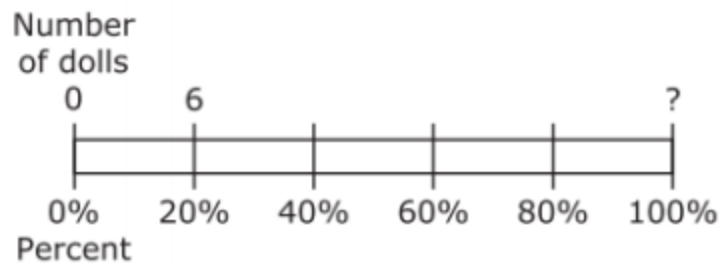
Brianna's thinking is incorrect.

- Identify the error in Brianna's thinking.
- Determine which of the three expressions are equivalent.
- Explain or show your process in determining which expressions are equivalent.

Enter your answers and your explanation or process in the space provided.

2)

Anita brings 6 dolls to her grandma's house. These dolls represent 20% of Anita's doll collection, as shown in the diagram.



What is the total number of dolls in Anita's doll collection?

3)

Chad drove 168 miles in 3 hours.

Part A

How many miles per hour did Chad drive?

Part B

Chad will drive 672 more miles. He continues to drive at the same rate.

How many hours will it take Chad to drive the 672 miles?

Part C

Chad stopped and filled the car with 11 gallons of gas. He had driven 308 miles using the previous 11 gallons of gas.

How many miles per gallon did Chad's car get?

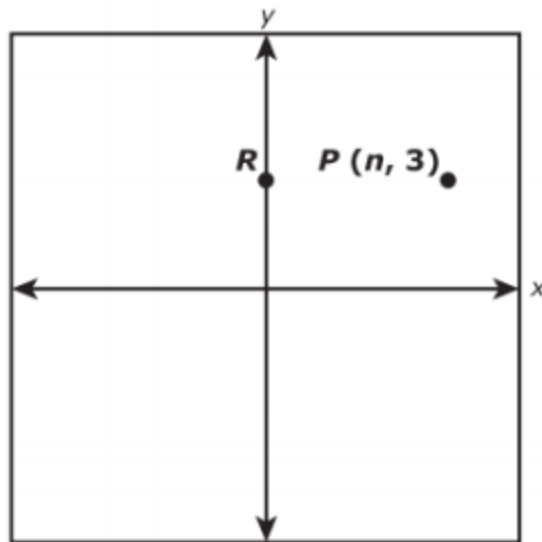
Part D

Chad's car continues to get the same number of miles per gallon.

How many gallons of gas will Chad's car use to travel 672 miles?

4)

The graph shows the location of point P and point R . Point R is on the y -axis and has the same y -coordinate as point P .



Point Q is graphed at $(n, -2)$. The distance from point P to point Q is equal to the distance from point P to point R .

What is the distance from point P to point Q ? What is the value of n ? Explain how you determined the distance from point P to point Q , and the value of n .