

Name _____



Summer Math Packet for Incoming 7th Graders

Equivalent Fractions and Decimals

<https://www.khanacademy.org/math/arithmetic/decimals/decimal-to-fraction/v/converting-fractions-to-decimals>

<https://www.khanacademy.org/math/arithmetic/decimals/decimal-to-fraction/v/converting-decimals-to-fractions-1--ex-3>

Write each fraction as a decimal. Round to the nearest thousandth, if necessary.

1. $\frac{5}{18}$ _____

2. $\frac{19}{20}$ _____

3. $\frac{5}{8}$ _____

4. $\frac{11}{5}$ _____

5. $\frac{19}{6}$ _____

6. $\frac{17}{4}$ _____

7. $\frac{13}{12}$ _____

8. $\frac{30}{7}$ _____

9. $\frac{7}{4}$ _____

10. $\frac{8}{9}$ _____

Write each decimal as a fraction in simplest form.

11. 0.85

12. 0.11

13. 0.25

14. 4.3

15. 7.75

16. 5.03

17. 1.06

18. 0.375

19. 2.65

20. 5.6

Equivalent Percents and Fractions

Percent to Fraction

$$85\% = \frac{85}{100} \div \frac{5}{5} = \frac{17}{20}$$

1. Drop the percent sign and write the number over 100

2. Reduce

Fraction to Percent

Method 1 Convert the fraction to a decimal, then multiply by 100.

Method 2 Set up equivalent fractions (rewrite the given fraction as a number over 100)

$$\frac{3}{8} \quad 3 \div 8 = 0.375$$

$$0.375 \times 100 = 37.5\%$$

$$\frac{3}{8} = \frac{p}{100}$$

$$3(100) = 8p$$

$$\frac{300}{8} = \frac{8p}{8}$$

$$37.5 = p$$

$$37.5\%$$

Write each percent as a fraction in simplest form.

1. 16%

2. 49%

3. 20%

4. 15%

5. 18%

6. 60%

7. 35%

8. 46%

9. 86%

10. 79%

Write each fraction as a percent.

11. $\frac{13}{40}$

12. $\frac{3}{5}$

13. $\frac{3}{20}$

14. $\frac{5}{12}$

15. $\frac{5}{16}$

16. $\frac{3}{80}$

17. $\frac{5}{6}$

18. $\frac{19}{25}$

19. $\frac{5}{8}$

20. $\frac{19}{20}$

Equivalent Decimals and Percents

https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/v/converting-percents-to-decimals--ex-1

https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/v/converting-decimals-to-percents--ex-1

Write each percent as a decimal.

1. 15%

2. 57%

3. 20%

4. 6%

5. 4.7%

6. 13.2%

7. 75.8%

8. 4%

9. 1.16%

10. 27.05%

Write each decimal as a percent.

11. 0.17

12. 0.56

13. 0.04

14. 0.7

15. 0.025

16. 0.803

17. 0.3

18. 0.072

19. 0.07

20. 0.065

Log on to the following website and complete all 20 questions, then record the information below:

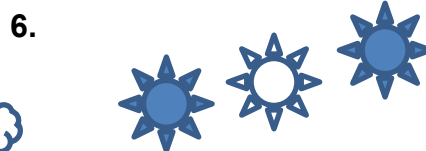
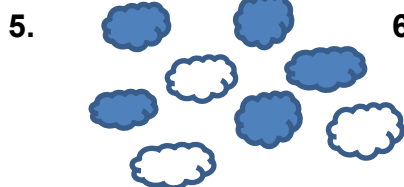
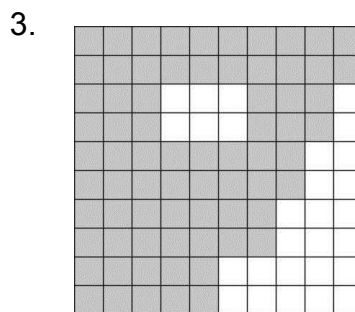
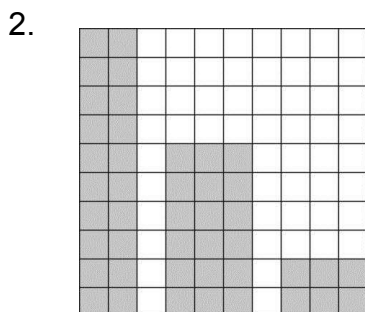
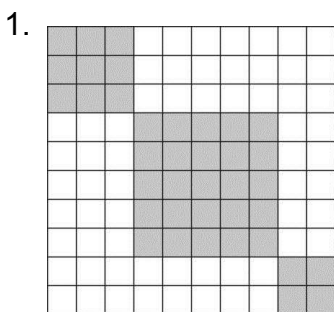
<http://www.ixl.com/math/grade-7/convert-between-percents-fractions-and-decimals>

| ixl.com 7th grade | | Date | Smart Score (minimum of 60 required) | Time | Parent/ Teacher Signature |
|---|--|-------------|---|-------------|----------------------------------|
| Skill K.2 | | / / | | | |

Fractions, Decimals, and Percents

https://www.khanacademy.org/math/arithmetic/decimals/percent_tutorial/v/representing-a-number-as-a-decimal--percent--and-fraction

Write the value modeled (shaded portion) as a fraction, decimal and percent.



Write each answer as a percent.

7. On a test, Hailey answered 64 out of 75 questions correctly. What portion of her answers was correct?

8. The police use a speed gun to monitor one part of a highway. During one hour, 6 out of 25 cars were traveling above the speed limit. What percent of the cars were traveling above the speed limit?

Use the table at the right to answer questions 9 & 10.

9. What percent of students at Madison do not own computers? Round to the nearest tenth of a percent

10. Which school has the greatest percent of students who own computers?

Students Who Own Computers

| School | Number of Students |
|---------|--------------------|
| Madison | 90 out of 270 |
| Hunter | 56 out of 100 |
| King | 110 out of 150 |
| Percy | 125 out of 500 |

Solving Proportions

Method 1

<https://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-ratio-proportion/cc-7th-constructing-proportions/v/find-an-unknown-in-a-proportion-2>

Method 2: Cross Products

$$\frac{4}{15} = \frac{36}{c}$$

$$4c = 15(36)$$

$$\frac{4c}{4} = \frac{540}{4}$$

$$c = 135$$

1. Cross Products
2. Multiply
3. Divide by the number next to the variable

Solve each proportion.

1. $\frac{7}{r} = \frac{1}{4}$

2. $\frac{k}{75} = \frac{9}{15}$

3. $\frac{24}{21} = \frac{s}{35}$

4. $\frac{17}{34} = \frac{7}{f}$

5. $\frac{15}{h} = \frac{5}{6}$

6. $\frac{5}{14} = \frac{n}{42}$

7. $\frac{z}{25} = \frac{12}{5}$

8. $\frac{36}{k} = \frac{9}{4}$

9. $\frac{e}{22} = \frac{6}{15}$

10. $\frac{5}{14} = \frac{4}{a}$ _____

11. Eight oranges cost \$1.00. How much will 5 dozen oranges cost?

12. A recipe calls for 2 eggs to make 10 pancakes. How many eggs will you need to make 35 pancakes?

Log on to the following website and complete all 20 questions, then record the information below:

<http://www.ixl.com/math/grade-7/solve-proportions>

| ixl.com 7 th grade | Date | Smart Score (minimum of 60 required) | Time | Parent/ Teacher Signature |
|----------------------------------|------|---|------|---------------------------|
| Skill J.8 | / / | | | |

Adding Integers

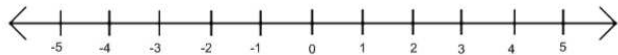
https://www.khanacademy.org/math/arithmetic/absolute-value/adding_subtracting_negatives/v/adding-negative-numbers

https://www.khanacademy.org/math/arithmetic/absolute-value/adding_subtracting_negatives/v/adding-integers-with-different-signs

Use a number line to find each sum.

1. $-1 + 5$

2. $4 + (-6)$



Draw a picture to model each sum.

7. $20 + (-7) =$

8. $-12 + (-15) =$

9. $(-13) + 9 =$

10. $-9 + (-11) =$

Find each sum.

3. $-51 + (-9)$

4. $27 + (-6)$

5. $1 + (-30)$

6. $15 + (-25)$

11. $-17 + 11$

12. $20 + (-8)$

13. $(-15) + (-7)$

14. $12 + (-14)$

21. The temperature rose 9 °F in 3 hours. If the starting temperature was -5 °F, what was the final temperature?

22. Matt is playing a game. He gains 7 points, loses 10 points, gains 2 points, and then loses 8 points. What is his final score?

Log on to the following website and complete all 20 questions, then record the information below:

<http://www.ixl.com/math/grade-6/add-integers>

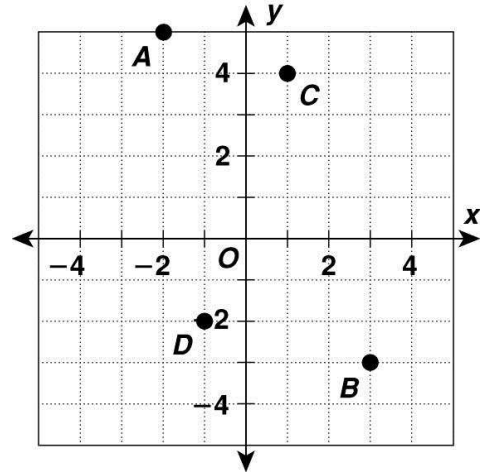
| ixl.com 7 th grade | Date | Smart Score (minimum of 60 required) | Time | Parent/ Teacher Signature |
|----------------------------------|------|---|------|---------------------------|
| Skill I.6 | / / | | | |

The Coordinate Plane

<https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-geometry-topic/cc-6th-coordinate-plane/v/plot-ordered-pairs>

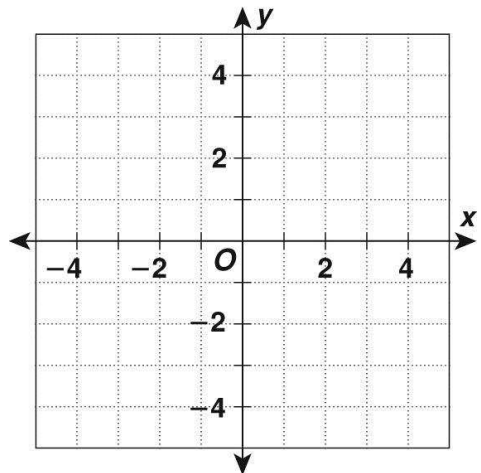
Identify the quadrant that contains each point.
Give the coordinates of each point.

1. A _____
2. B _____
3. C _____
4. D _____



Plot each point on a coordinate plane.

5. E (-2, -2)
6. F (4, -5)
7. G (0, -2)
8. H (-4, 4)
9. I (3, 0)
10. J (-3, 1)



Log on to the following website and complete all 20 questions, then record the information below:

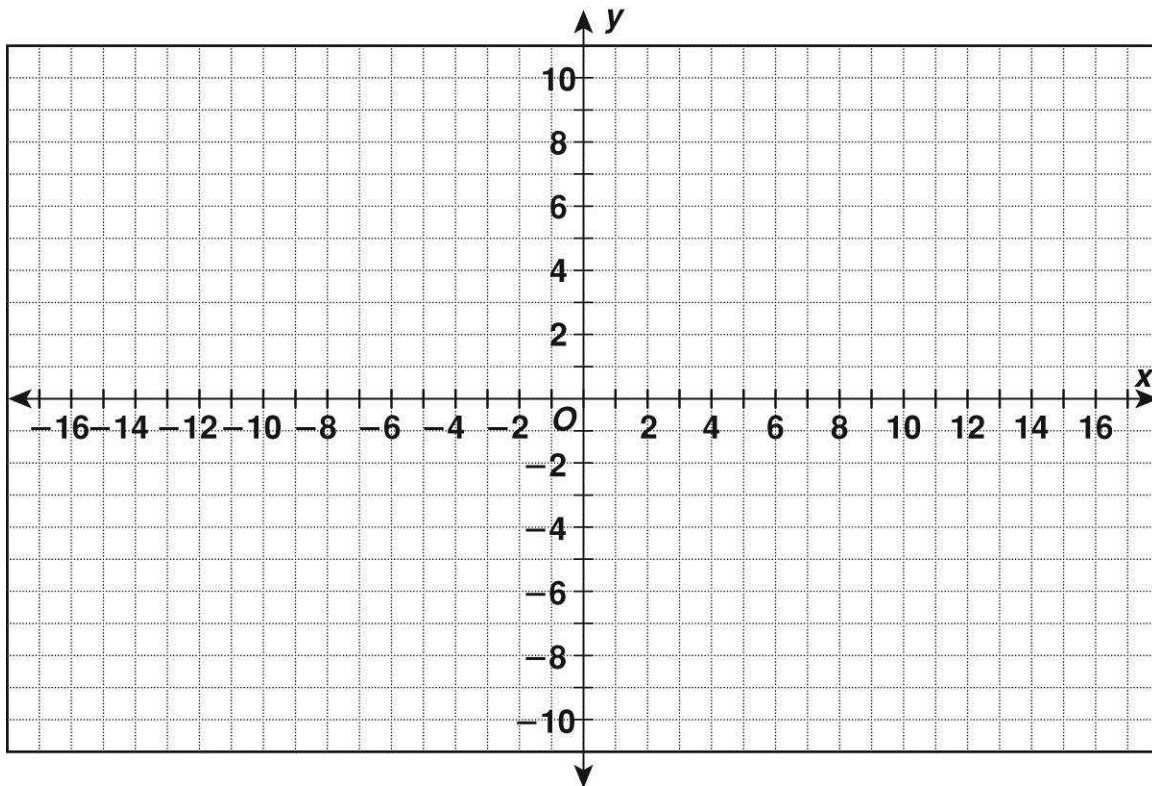
<http://www.ixl.com/math/grade-7/points-on-coordinate-graphs>

| ixl.com 7 th grade | Date | Smart Score (minimum of 60 required) | Time | Parent/ Teacher Signature |
|----------------------------------|------|---|------|---------------------------|
| Skill S.1 | / / | | | |

The Coordinate Plane

Graph each point on the grid below. Connect each point to the previous one as you graph it. Then connect the last point to the first point.

- | | | | |
|-----------------|----------------|-----------------|------------------|
| 1. $(0, -10)$ | 2. $(-1, -9)$ | 3. $(-2.5, -7)$ | 4. $(-5, -7)$ |
| 5. $(-6, -5)$ | 6. $(-10, -5)$ | 7. $(-13, -3)$ | 8. $(-15, -1)$ |
| 9. $(-16, 2)$ | 10. $(-15, 8)$ | 11. $(-15, 10)$ | 12. $(-3, 9)$ |
| 13. $(4, 8)$ | 14. $(4, 7)$ | 15. $(6, 8)$ | 16. $(6, 4)$ |
| 17. $(8, 6)$ | 18. $(9, 6)$ | 19. $(9, 3)$ | 20. $(11, 5)$ |
| 21. $(16, 10)$ | 22. $(18, 8)$ | 23. $(16, 6)$ | 24. $(18, 4)$ |
| 25. $(14, 1)$ | 26. $(14, -1)$ | 27. $(11, -5)$ | 28. $(12.5, -8)$ |
| 29. $(13, -10)$ | 30. $(11, -9)$ | 31. $(9, -6)$ | 32. $(2.5, -7)$ |



33. In which state is the point $(0, -8)$? _____
34. Name a point in the state of Florida. _____

Adding and Subtracting Fractions

<https://www.khanacademy.org/math/arithmetic/fractions/fractions-unlike-denom/v/adding-fractions-with-unlike-denominators>

Add or subtract. Write each answer in simplest form.

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

2. $\frac{4}{15} + \frac{8}{15}$

3. $\frac{7}{12} - \frac{5}{12}$

4. $\frac{9}{10} - \frac{7}{10}$

5. $\frac{7}{12} - \frac{11}{12}$

6. $\frac{2}{7} + \frac{6}{7}$

7. $\frac{11}{15} + \frac{7}{15}$

8. $\frac{3}{16} - \frac{1}{16}$

9. $\frac{8}{21} + \frac{5}{21}$

10. $7\frac{2}{7} + 6\frac{5}{7}$

11. $5\frac{4}{9} + 3\frac{7}{9}$

12. $4\frac{1}{3} + 8\frac{1}{4}$

13. $2\frac{7}{15} + 3\frac{11}{15}$

14. $6\frac{9}{10} + 1\frac{2}{5}$

15. $4\frac{13}{15} - 1\frac{7}{15}$

16. $6\frac{2}{3} - 3\frac{3}{5}$

17. $10\frac{3}{4} - 6\frac{1}{3}$

18. $2\frac{3}{10} - 1\frac{7}{8}$

19. The school track is $\frac{7}{8}$ mile in length. Sherri ran $\frac{2}{3}$ mile. How much farther does she have to go to get all the way around the track?

20. Tucker ran $5\frac{3}{8}$ miles on Monday and $3\frac{3}{4}$ miles on Tuesday. How far did he run on both days? _____

Log on to the following website and complete all 20 questions, then record the information below:

<http://www.ixl.com/math/grade-7/add-and-subtract-mixed-numbers-word-problems>

| ixl.com | Date | Smart Score | Time | Parent/ Teacher Signature |
|-----------------------|------|--------------------------|------|---------------------------|
| 7 th grade | | (minimum of 60 required) | | |
| Skill G.4 | / / | | | |

Multiplying Fractions and Mixed Numbers

https://www.khanacademy.org/math/arithmetic/fractions/multiplying_fractions/v/multiplying-fractions

https://www.khanacademy.org/math/arithmetic/fractions/multiplying_fractions/v/multiplying-fractions

https://www.khanacademy.org/math/arithmetic/fractions/mixed_number_mult_div/v/multiplying--mixed-numbers

Simplify. Write each answer in simplest form.

1. $5 \cdot \frac{1}{2}$

2. $\frac{9}{15} \cdot \frac{5}{7}$

3. $5 \cdot \frac{5}{6}$

10. $2\frac{1}{3} \cdot \frac{3}{5}$

11. $3\frac{2}{5} \cdot \frac{1}{2}$

12. $4\frac{5}{6} \cdot \frac{2}{5}$

13. $2\frac{2}{5} \cdot \frac{2}{3}$

14. $3\frac{3}{4} \cdot \frac{2}{5}$

15. $8\frac{1}{6} \cdot \frac{3}{7}$

16. $2\frac{1}{3} \cdot 3\frac{3}{8}$

17. $1\frac{3}{5} \cdot 6\frac{2}{3}$

18. $2\frac{2}{5} \cdot 4\frac{5}{6}$

19. Rolf spent 15 hours last week practicing his saxophone. If $\frac{3}{10}$ of the time was spent practicing warm-up routines, how much time did he spend practicing warm-up routines?

20. A muffin recipe calls for $\frac{2}{5}$ tablespoon of vanilla extract for 6 muffins. Arthur is making 18 muffins. How much vanilla extract does he need?

Dividing Fractions and Mixed Numbers

<https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-arithmetic-operations/cc-6th-dividing-fractions/v/dividing-fractions-example>

Divide. Write each answer in simplest form.

1. $4 \div \frac{1}{2}$

2. $\frac{1}{5} \div \frac{1}{4}$

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

4. $\frac{8}{9} \div \frac{2}{3}$

5. $-\frac{3}{8} \div \frac{3}{4}$

6. $\frac{7}{10} \div \frac{3}{5}$

7. $\frac{5}{12} \div \frac{2}{5}$

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

9. $\frac{7}{12} \div \frac{3}{4}$

10. $-4\frac{1}{6} \div \frac{1}{3}$

11. $3\frac{1}{4} \div \frac{2}{5}$

12. $6\frac{1}{9} \div \frac{1}{6}$

13. $2\frac{1}{4} \div 1\frac{3}{4}$

14. $3\frac{3}{4} \div 2\frac{5}{6}$

15. $5\frac{1}{3} \div \left(-1\frac{4}{5}\right)$

16. $2\frac{1}{2} \div 2\frac{1}{3}$

17. $-1\frac{3}{4} \div 1\frac{1}{4}$

18. $7\frac{2}{3} \div 1\frac{1}{5}$

19. Three friends are training for a race. Last week, Jacquis ran 3 more miles than Ellen. Miryana ran 1.5 times as far as Jacquis. If Miryana ran 7 miles last week, how many miles did Ellen run?

20. Jenna is designing a statue for a monument. The torso needs to be 2.5 times the length of the head, and the legs need to be 1.6 meters longer than the torso. If the legs are 5.2 meters long, what is the length of the head?

Log on to the following website and complete all 20 questions, then record the information below:

<http://www.ixl.com/math/grade-7/add-subtract-multiply-and-divide-fractions-and-mixed-numbers-word-problems>

| ixl.com 7 th grade | Date | Smart Score (minimum of 60 required) | Time | Parent/ Teacher Signature |
|----------------------------------|------|---|------|---------------------------|
| Skill G.15 | / / | | | |

