

Math 50 Exam #3 Review Sheet – Summer 2015

Please Note: The exam will cover 5.1-5.8, 6.1-6.6, and 7.1-7.2. The review sheet is designed for you to have a guide as to what to study. The problems on the exam are not limited to the type of problems on this sheet. Any types of problem from the assigned homework problems are possible exam questions. Please attempt other practice problems other than those presented on this sheet in order to be completely prepared for the exam.

1. Write the following improper fractions as a mixed number.

a. $\frac{52}{9}$

b. $\frac{-111}{20}$

2. Write the following mixed numbers as an improper fraction.

a. $13\frac{2}{5}$

b. $-15\frac{5}{6}$

3. Reduce the following to lowest terms.

a. $\frac{66}{88}$

b. $-\frac{196}{210}$

c. $\frac{10x}{32}$

d. $\frac{30h^2k}{18h^4k}$

e. $\frac{-38a^4b^5c^2d^4}{95a^{10}bc^7}$

4. Perform the indicated operation. Write your answer in simplest form.

a. $\frac{24}{32} \cdot \frac{26}{30}$

c. $4\frac{5}{8} \cdot 16$

b. $\frac{60}{-81} \cdot \frac{45}{72}$

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

$$e. -\frac{10x^4y}{11z} \cdot \frac{22z}{14x^2}$$

$$i. \frac{-3}{4} \div 6$$

$$f. \frac{9m^3}{25n^4p} \cdot \frac{-15n}{18m^2p}$$

$$j. \frac{\frac{12}{-2}}{3}$$

$$g. \left(\frac{t^4}{4y}\right)^3$$

$$k. \frac{t^2u^4}{18v^3} \div \frac{-10t^5}{12v}$$

$$h. \frac{14}{15} \div -\frac{7}{12}$$

$$l. \sqrt{\frac{81}{16}}$$

5. Find the LCM.

a. 16 and 20

b. 63 and 28

c. 26, 30, and 39

d. $9ab$ and $3b$

e. $20h^5k$ and $15h^2k^3$

6. Rewrite the following fractions to equivalent fractions with the LCD.

a. $\frac{2}{15}$ and $\frac{4}{9}$

d. $\frac{5}{9ab}$ and $\frac{2}{3b}$

b. $\frac{3}{16}$ and $\frac{9}{20}$

e. $\frac{-13}{20h^5k}$ and $\frac{4}{15h^2k^3}$

c. $\frac{3}{4}$, $\frac{1}{6}$, and $\frac{7}{9}$

7. Simplify.

a. $\frac{1}{6} - 5 \cdot \frac{7}{10}$

d. $\left(\frac{1}{2}\right)^3 + 2\frac{1}{4} - 5\left(\frac{3}{10} + \frac{1}{5}\right)$

b. $5\frac{1}{3} + \frac{3}{4} \div \frac{5}{12}$

e. $5\left(\frac{1}{2} - 3\frac{4}{5}\right) - 2\left(\frac{1}{6} + 4\right)$

c. $7\frac{1}{4} + \frac{3}{4}\sqrt{\frac{4}{9}}$

8. Perform the indicated operations.

$$a. \left(a^4 + \frac{1}{4}a^2 - a - \frac{1}{6}\right) + \left(\frac{3}{10}a^3 + a^2 - \frac{2}{3}a + 4\right)$$

$$b. \left(2x^4 + \frac{3}{5}x^2 - \frac{1}{8}x + 1\right) - \left(6x^4 + \frac{1}{4}x^2 - \frac{1}{2}x - \frac{1}{3}\right)$$

$$c. \left(-\frac{1}{6}m^3n^5\right)\left(\frac{3}{5}m^7n^2\right)$$

$$d. -\frac{5}{8}\left(\frac{4}{5}t^2 - \frac{2}{3}t - \frac{1}{10}\right)$$

$$e. \left(\frac{1}{4}u - \frac{1}{3}\right)\left(\frac{1}{2}u + \frac{2}{3}\right)$$

9. Solve the following equations.

$$a. \frac{2}{3}y - 8 = \frac{1}{6}$$

$$e. \frac{2}{5}a = 10$$

$$b. \frac{1}{8} + n = \frac{5}{6}n - \frac{2}{3}$$

$$f. \frac{7}{10} = \frac{1}{5}x$$

$$c. \frac{5}{6}(x-8) = \frac{1}{5}x - \frac{1}{3}$$

$$g. \frac{n}{12} = -\frac{3}{20}$$

$$d. \frac{28}{42} = \frac{x}{6}$$

$$h. \frac{-5m}{6} = \frac{-5}{21}$$

10. Perform the indicated operation. Write your answer in simplest form.

$$a. \frac{3}{10} + \frac{5}{6}$$

$$d. \frac{2}{3n^2} - \frac{7}{9n}$$

$$b. \frac{7}{12} - \frac{11}{36}$$

$$e. 6\frac{7}{8} - \left(-3\frac{1}{4}\right)$$

$$c. \frac{9}{16m} - \frac{3}{8m}$$

11. Translate the following to an equation, then solve.

a. $\frac{3}{8}$ of a number is $4\frac{5}{6}$. Find the number.

b. $3\frac{1}{4}$ more than twice n is $-\frac{1}{6}$.

c. $\frac{2}{5}$ of the difference of 1 and h is the same as $1\frac{1}{4}$ times h .

12. Simplify.

a. $9.28 - 0.56(12)$

b. $(0.4)^2 - 2.8 \div 0.2(1.6)$

c. $7.5 + 2.2\sqrt{0.25} - 36.8 \div 8$

d. $40.1 - 6.9 \div 4.6(1.4)^2 + \sqrt{0.36}$

e. $\frac{7}{10}(12.88 - 4.38)$

f. $\frac{2}{5} \div (-0.8) + \left(\frac{1}{3}\right)^2$

13. Perform the indicated operations.

a. $-6.8(0.02a^3 - ab + 1.9b)$

b. $(6.1y + 2)(0.8y - 5)$

14. Solve the following equations.

a. $12.1x + 5.6 = 10.924$

b. $0.8n + 1.22 = 0.408 - 0.6n$

c. $4(2.55 - x) - 5.8x = 12.2 - (8 + 11.4x)$

15. Translate the following to an equation, then solve.

a. 18.75 more than 3.5 times t is equal to 1.5 minus t .

b. 0.6 times the sum of k and 1.5 is equal to 0.42 plus the product of 1.2 and k .

16. Perform the indicated operation without the aid of a calculator.

a. $56.482 + 43.9327$

b. $72.462 - 94.5234$

c. $(5.62)(3.4)$

d. $93.96 \div 10.8$

e. $19.6 \div 0.11$

17. Write the following fractions as a decimal.

a. $\frac{9}{20}$

b. $-\frac{5}{32}$

c. $5\frac{5}{9}$

18. Solve each of the following for the indicated value.

a. Find the area of a triangle with a base of 6 cm and a height of 4 cm.

b. Find the area of a circle whose radius is 6 m.

19. Latisha has a change purse in which she only keeps quarters and half dollars. She has 12 more quarters than half dollars. If the total she has in the purse is \$6.75, how many of each coin does she have?

20. Bernice sells drinks at college football games and gets paid by the number of each size drink she sells. There are two drink sizes, 12 oz. and 16 oz. The 12 oz. sells for \$1.50 and the 16 oz. for \$2.00. She knows she sold 65 drinks but cannot remember how many of each size. If her total sales is \$109, how many of each size did she sell?

21. Stan buys 4.75 lb. of onions at \$0.79/lb. What is the total cost of the onions?

22. Brad has a student loan balance of \$1734.72. If he agrees to make equal monthly payments over a four-year period, how much will each payment be?

23. A plane is flying at 350 mph. How long will it take the plane to reach a city that is 600 miles away? (Use $d = rt$.)

25. A roof is to have a pitch, or slant, of 14 in. vertically to 16 in. horizontally. Write the ratio of vertical distance to horizontal distance in simplest form.

26. What is the probability of rolling a 2, 5 or 6 on a standard six-sided die?

27. What is the probability of pulling a Jack from a standard deck of cards?

28. What is the probability of pulling a diamond from a standard deck of cards?

29. A bag contains 5 green balls, 7 red balls, 2 yellow balls and 8 orange balls. What is the probability of pulling

a. One green ball? b. One orange ball?

30. Dan drives 224 miles in 3.5 hours. What is his average rate in miles per hour?

31. William drove 358.4 miles using 16.4 gallons of gasoline. At this rate, how much gasoline would it take for him to drive 750 miles?

32. A recipe for bran muffins calls for $2\frac{1}{2}$ teaspoons of baking powder. The recipe yields 8 muffins. How much baking powder should be used to make two-dozen muffins?