

Final Exam

SHOW YOUR WORK

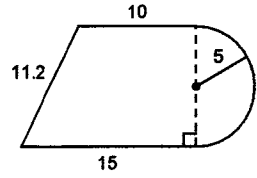
Name: _____

1. Use the rules of divisibility to tell if 71,655 is divisible by:
 (a) 3 (b) 5
2. Divide (round the answer to two decimal places): $\frac{431.25}{61}$
3. Simplify mentally:
 (a) $81,464 \div 1000$ (b) 11.2836×100
4. Write $\frac{6}{15}$ as a fraction with a denominator of 20.
5. Write $\frac{720}{2000}$ as a product of prime factors and simplify.
6. Use words to write the number 7821.8218.
7. The average time for four 400-meter runs was 53.4 seconds. If the first run was 52.7 seconds, the second run was 53.3 seconds, and the third run was 54.1 seconds, what was the time for the fourth run?
8. What number is $\frac{7}{13}$ of 143? 9. Write $\frac{107}{13}$ as a mixed number.
10. Find the least common multiple of 16, 21, and 24.
11. Simplify: $6\frac{3}{4} \cdot 3\frac{1}{2} + 3\frac{3}{5} + 3\frac{3}{4}$
12. Use four unit multipliers to convert 630 square yards to square inches.
13. Joey hid them in bunches of 24. In all he hid 503 bunches. How many did he hide in all?
14. Simplify: $2631.28 - 37.198$ 15. What decimal part of 560 is 70?
16. Patton's troops covered the first 48 miles in 4 hours. He then increased the speed by 8 miles per hour. If the total distance of the trip was 108 miles, how long did it take to finish the trip?
17. Solve: $\frac{\frac{6}{12}}{\frac{12}{21}} = \frac{4}{x}$

18. Complete the table. Begin by inserting the reference numbers.

<i>Fraction</i>	<i>Decimal</i>	<i>Percent</i>
(a)	(b)	68

19. Find (a) the perimeter and (b) the area of this figure. Dimensions are in yards.

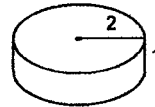


20. Round 0.0004567 to the nearest millionth and write the rounded number in scientific notation.
21. Evaluate: $mp + \sqrt[p]{x} + m^p$ if $m = -4$, $p = 3$, and $x = -64$
22. Simplify: 218.9×0.0031
23. Solve: $7\frac{1}{8}x + 2\frac{7}{10} = 3\frac{2}{5}$
24. The ratio of big spenders to tightwads was 5 to 2. If 2100 were big spenders, how many were there in all?

Simplify:

25. $\sqrt[3]{-8} + \sqrt{4}[-2^3 - 4]3 - (-1)^7$
26. $\frac{1}{6}\left(2\frac{1}{3} \cdot \frac{1}{2} - \frac{3}{4}\right) + \frac{5}{24}$
27. Graph: $x \geq 2$

28. What number is 160 percent of 90? Draw a diagram of the problem.
29. The number of leaves on the ground increased 240 percent during the wind storm. If 2700 leaves were on the ground before the storm, how many were on the ground after the storm?
30. Find the volume and surface area of the right circular cylinder shown. Dimensions are in feet.

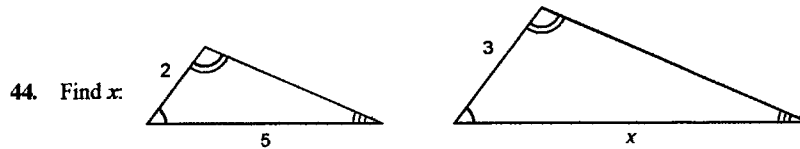


31. Simplify: $4 - 3(5) - 7(-6) - 4\left(\frac{20}{-4}\right)$
32. Find (a) the volume and (b) the surface area of a rectangular solid whose length, width, and height measure 12 inches, 10 inches, and 3 inches respectively.
33. Use the method of cut and try to find $\sqrt{20}$ to one decimal place. Show your work.
34. A number was multiplied by -4 and decreased by 6. If the final result was -34 , what was the number?
35. Five times a number is 49 greater than the product of 2 and the opposite of the number. What is the number?
36. If $4x + 2 = 11$, what is the value of $2x - 1$?
37. Simplify by adding like terms: $yx^2 + xyx + 3y^2x + 2yxy$
38. Use the distributive property to multiply: $3mn^2(m + mny + 3m^2)$
39. Simplify: $m^2p^2pm^3p^3p$
40. Write the Roman numeral for 29.

41. If Shirley put \$4000 in the bank at 6 percent interest compounded annually, how much money would she have at the end of 2 years?

42. Simplify: $-\frac{1}{3^{-3}} - [-(-2^2)] + \sqrt[3]{-27}$

43. Use a protractor to draw an 80° angle. Then use a straightedge and a compass to copy the angle.

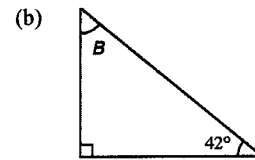
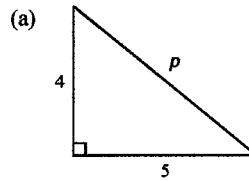


45. Solve: $8x - 2 - x - 4x = -3x + 14$

46. Draw a line segment 6 centimeters long. Construct a perpendicular to the line at a point 2 centimeters from the right endpoint.

47. A single die is rolled twice. What is the probability that the first roll will be a 6 and the second roll will be a 2?

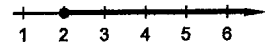
48. Find (a) side p and (b) angle B :

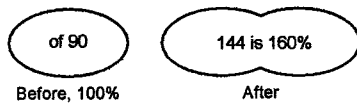


49. Write 75 (base 10) using base 2 numerals.

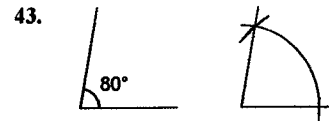
50. Graph: (a) $(4, -3)$ (b) $(-3, 0)$

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1. (a) Yes (b) Yes
2. 7.07
3. (a) 81.464 (b) 1128.36
4. $\frac{8}{20}$
5. $\frac{9}{25}$
6. Seven thousand, eight hundred twenty-one and eight thousand, two hundred eighteen ten-thousandths
7. 53.5 seconds
8. 77
9. $8\frac{3}{13}$
10. 336
11. $\frac{7}{4}$
12. $630(3)(3)(12)(12) \text{ in.}^2$
13. 12,072
14. 2594.082
15. 0.125
16. 3 hours
17. $\frac{8}{3}$
18. (a) $\frac{17}{25}$ (b) 0.68
19. (a) 51.9 yd (b) 164.25 yd^2
20. 4.57×10^{-4}
21. -80
22. 0.67859
23. $\frac{28}{285}$
24. 2940
25. -72
26. $\frac{5}{18}$
27. 
28. 144



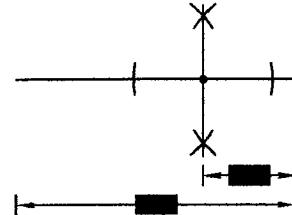
29. 9180
30. $12.56 \text{ ft}^3; 37.68 \text{ ft}^2$
31. 51
32. (a) 360 in.^3 (b) 372 in.^2
33. 4.5
34. 7
35. 7
36. $\frac{7}{2}$
37. $2yx^2 + 5y^2x$
38. $3m^2n^2 + 3m^2n^2y + 9m^3n^2$
39. m^5p^7
40. XXIX
41. \$4494.40
42. -34



44. $\frac{15}{2}$

45. $\frac{8}{3}$

46.



47. $\frac{1}{36}$

48. (a) $\sqrt{41}$ (b) 48°

49. 1001011 (base 2)

50. (a) $(4, -3)$ (b) $(-3, 0)$

