

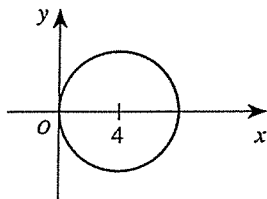
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38. In the standard (x,y) coordinate plane, the center of the circle shown below lies on the x -axis at $x = 4$. If the circle is tangent to the y -axis, which of the following is an equation of the circle?

- F. $(x + 4)^2 + y^2 = 4$
 G. $(x - 4)^2 + y^2 = 16$
 H. $(x - 4)^2 - y^2 = 16$
 J. $(x - 4)^2 + y^2 = 4$
 K. $x^2 + (y - 4)^2 = 16$

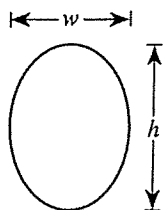


39. In what order should $\frac{5}{3}$, $\frac{7}{4}$, $\frac{6}{5}$, and $\frac{9}{8}$ be listed to be arranged by increasing size?

- A. $\frac{9}{8} < \frac{6}{5} < \frac{5}{3} < \frac{7}{4}$
 B. $\frac{9}{8} < \frac{6}{5} < \frac{7}{4} < \frac{5}{3}$
 C. $\frac{7}{4} < \frac{5}{3} < \frac{9}{8} < \frac{6}{5}$
 D. $\frac{6}{5} < \frac{9}{8} < \frac{5}{3} < \frac{7}{4}$
 E. $\frac{5}{3} < \frac{6}{5} < \frac{7}{4} < \frac{9}{8}$

40. Mai is putting gold foil around the outside of an elliptical picture frame. The perimeter of an ellipse is given by the formula $p = \frac{\pi}{2} \sqrt{2(h^2 + w^2)}$, where h is the height and w is the width, as shown in the diagram below. If an elliptical frame has an outside height equal to 4 inches and an outside width equal to 3 inches, what is its outside perimeter, in inches?

- F. $\frac{5}{2}\pi\sqrt{2}$
 G. $\frac{7}{2}\pi\sqrt{2}$
 H. $5\pi\sqrt{2}$
 J. $\frac{\pi}{2}(4\sqrt{2} + 3)$
 K. $(4\pi + 3)\sqrt{2}$



41. If $\frac{A}{30} + \frac{B}{105} = \frac{7A + 2B}{x}$ and A , B , and x are integers greater than 1, then what must x equal?

- A. 9
 B. 135
 C. 210
 D. 630
 E. 3,150

Use the following information to answer questions 42–44.

Kaylee is planning to purchase a car. She will need to borrow some of the money and has a chart, shown below, to use to approximate her monthly payment. The chart gives the approximate monthly payment per \$1,000 borrowed.

Monthly payment per \$1,000 borrowed for various annual rates and various numbers of payments			
Annual interest rate	Number of monthly payments		
	36	48	60
5%	\$29.97	\$23.03	\$18.87
8%	\$31.34	\$24.41	\$20.28
10%	\$32.27	\$25.36	\$21.24
12%	\$33.22	\$26.34	\$22.24

42. Kaylee found a used car she is thinking about purchasing. The list price is \$8,795. She calculates that she will need to borrow \$6,500. Approximately what would her monthly payment be if she borrowed the money for 36 months at an annual interest rate of 10%?

- F. \$164.84
 G. \$171.21
 H. \$209.76
 J. \$234.72
 K. \$283.81

43. A local dealership is having an end-of-the-model-year clearance sale and is offering 5% annual interest on new-car loans for 36, 48, or 60 months. The maximum amount Kaylee can budget for her monthly car payment is \$300. Of the following loan amounts, which one is the maximum Kaylee can borrow at 5% annual interest and stay within her budget?

- A. \$10,000
 B. \$13,000
 C. \$14,000
 D. \$15,000
 E. \$20,000

44. Another dealership is offering 5-year loans with a 9% annual interest rate. Kaylee uses her chart to estimate the payment per \$1,000 borrowed. Of the following, which is most likely the monthly payment per \$1,000 borrowed?

- F. \$20.52
 G. \$20.76
 H. \$20.85
 J. \$21.00
 K. \$21.74

BELLWORK ANSWERS

○ 38. G

39. A

40. F

41. C

42. H

○ 43. D

44. G

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