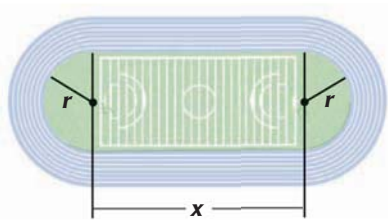
35. TEMPERATURE The formula for converting temperatures from degrees Celsius to degrees Fahrenheit is $F = \frac{9}{5}C + 32$. Solve the formula for C. Then find the temperature in degrees Celsius that corresponds to 50°F.

36. EXTENDED RESPONSE A quarter mile running track is shaped as shown. The formula for the inside perimeter is $P = 2\pi r + 2x$.



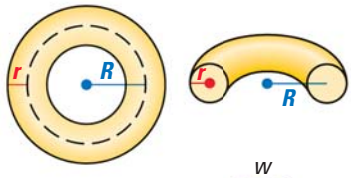
a. Solve the perimeter formula for r.

b. For a quarter mile track, $P = 440$ yards. Find r when $x = 75$ yards, 100 yards, 120 yards, and 150 yards.

c. What are the greatest and least possible values of r if $P = 440$ yards? *Explain* how you found the values, and sketch the track corresponding to each extreme value.

37. MULTI-STEP PROBLEM A tuxedo shop rents classic tuxedos for \$80 and designer tuxedos for \$150. Write an equation that represents the shop's revenue. Solve the equation for the variable representing the number of designer tuxedos rented. The shop owner wants \$60,000 in revenue during prom season. How many designer tuxedos must be rented if the number of classic tuxedos rented is 600? 450? 300?

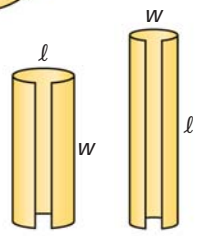
38. OPEN-ENDED MATH The volume of a donut-like shape called a *torus* is given by the formula $V = 2\pi^2 r^2 R$ where r and R are the radii shown and $r \leq R$.



a. Solve the formula for R.

b. A metal ring in the shape of a torus has a volume of 100 cubic centimeters. Choose three possible values of r, and find the corresponding values of R.

39. CHALLENGE A rectangular piece of paper with length ℓ and width w can be rolled to form the lateral surface of a cylinder in two ways, assuming no overlapping. Write a formula for the volume of each cylinder in terms of ℓ and w.



MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW
Skills Review Handbook p. 993; TAKS Workbook

40. TAKS PRACTICE Jill is mailing a gift in a rectangular box that is 14 inches by 10 inches by 8 inches. She wants to mail this box in a larger box that is 18 inches by 15 inches by 10 inches. How many cubic inches of packing material does she need to surround the gift? *TAKS Obj. 10*

Ⓐ 1120 in.^{3} Ⓑ 1580 in.^{3} Ⓒ 2700 in.^{3} Ⓓ 3820 in.^{3}

REVIEW
Skills Review Handbook p. 994; TAKS Workbook

41. TAKS PRACTICE If $\angle A$ and $\angle B$ are supplementary angles and $m\angle A$ is 56°, what is $m\angle B$? *TAKS Obj. 6*

Ⓕ 34° Ⓖ 112° Ⓗ 124° Ⓙ 306°

REVIEW
Lesson 1.3; TAKS Workbook

42. TAKS PRACTICE What is the solution of the equation $3(r - 1) = -2(r + 7) + 1$? *TAKS Obj. 2*

Ⓐ −3 Ⓑ −2 Ⓒ 2 Ⓓ 3

EXTRA PRACTICE for Lesson 1.4, p. 1010

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