

## Study Guide Final Test

**Evaluate each expression.**

1)  $-4 + 8$

3)  $22 - 8$

5)  $13 - 21$

7)  $0 + -5$

9)  $16 + -18$

11)  $\frac{7}{-2 + -12 - -7}$

13)  $-\frac{(27)2}{6}$

15)  $(-6)(-8) - 5 - -13$

2)  $3 - -17$

4)  $-25 - 21$

6)  $6 - -5$

8)  $-7 - 1$

10)  $9 - -17$

12)  $\frac{(18)(2)}{5 + 7}$

14)  $-6 - (-2 - 10) - 7$

**Find each product.**

16)  $(-7)(-12)$

18)  $(-10)(-3)$

20)  $(-3)(6)$

17)  $(-13)(7)$

19)  $(0)(-4)$

**Find each quotient.**

21)  $\frac{80}{-10}$

23)  $\frac{72}{-12}$

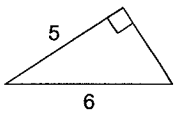
25)  $\frac{4}{-2}$

22)  $\frac{-40}{-5}$

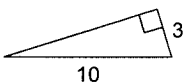
24)  $\frac{112}{-8}$

**Find each missing length.**

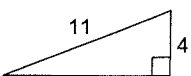
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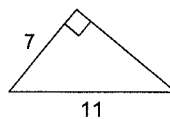
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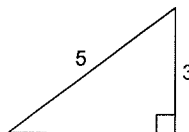
30)



27)



29)



**Identify the property that each statement represents.**

31)  $5 + 4 + 6 = 4 + 6 + 5$

33)  $18(4 \cdot 10) = (18 \cdot 4)10$

35)  $26(4 + 130) = 26(4) + 26(130)$

37)  $\frac{1}{3} \cdot 3 = 1$

39)  $13,238,714 \cdot 1 = 13,238,714$

32)  $18(4)(10) = (4)(18)(10)$

34)  $(4 + 130) + 246 = 4 + (130 + 246)$

36)  $4x + -4x = 0$

38)  $1,230,000 + 0 = 1,230,000$

40)  $15x = 30$

$30 = 15x$

**Write an equation and solve.**

41) Trevon won 79 super bouncy balls playing basketball at his school's game night. Later, he gave four to each of his friends. He only has 3 remaining. How many friends does he have?

43) On Tuesday Arjun bought seven posters. On Wednesday half of all the posters that he had were destroyed. On Thursday there were only 19 left. How many did he have on Monday?

45) How old am I if 300 reduced by 3 times my age is 150?

42) A wise man once said, "300 reduced by 3 times my age is 33." What is his age?

44) Alberto spent half of his weekly allowance playing arcade games. To earn more money his parents let him clean the windows in the house for \$7. What is his weekly allowance if he ended with \$10?

**Find the unit rate.**

46) 192 fl oz in 6 cartons

48) \$22.95 for 15 pounds

50) 73.5 miles in 24.5 minutes

52) 6 pounds in 4 cartons

47) 540 straws in 15 boxes

49) 73.5 miles in 24.5 minutes

51) \$6.48 for 18 ounces

**Find each permutation given n and r.**

53)  $n = 14; r = 7$

55)  $n = 11; r = 7$

57)  $n = 12 \quad r = 3$

54)  $n = 8; r = 3$

56)  $n = 7 \quad r = 6$

**Find each combination given n and r.**

58)  $n = 12; r = 3$

60)  $n = 6 \quad r = 1$

62)  $n = 11 \quad r = 7$

59)  $n = 17; r = 5$

61)  $n = 18 \quad r = 4$

**Solve each equation.**

63)  $2(7 - 5n) = 32 - 4n$

65)  $-19 - 4x = -(3 + 8x)$

67)  $-26 - 7r = -(r - 4)$

64)  $-2(m - 4) = 4m + 20$

66)  $-8n - 19 = -3(3 + 2n)$

**Solve each multistep inequality and graph its solution.**

68)  $-37 + 5n \geq -5 + 8(2n + 7)$

69)  $28 + 2a > -8(1 + 2a)$

70)  $-6(-5 + 4b) + 8b > -2b - 40$

72)  $6(x - 6) > -2x - 4$

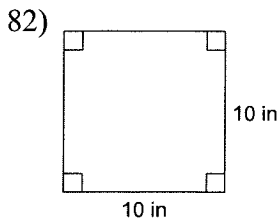
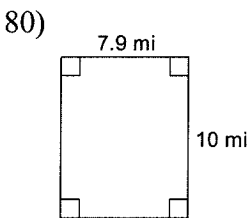
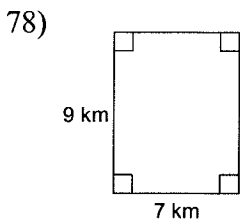
**Sketch the graph of each line.**

73)  $y = x + 5$

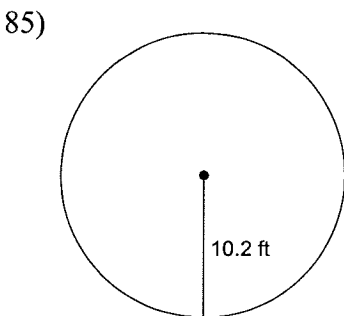
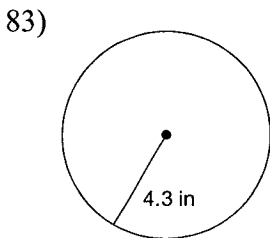
75)  $y = -\frac{2}{3}x + 2$

77)  $y = -\frac{4}{5}x$

**Find the area of each.**



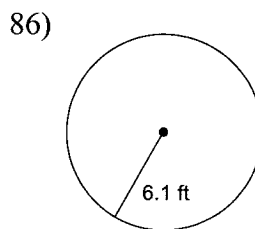
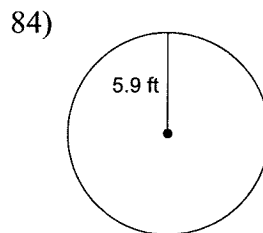
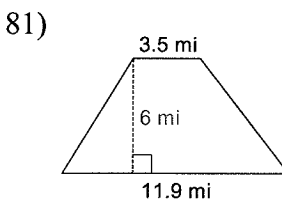
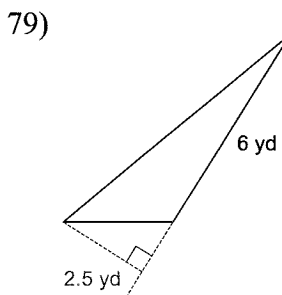
**Find the circumference of each circle. Round your answer to the nearest hundredth.**



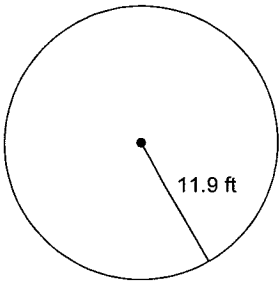
71)  $2v + 40 \leq 8(-5v + 5)$

74)  $y = -3$

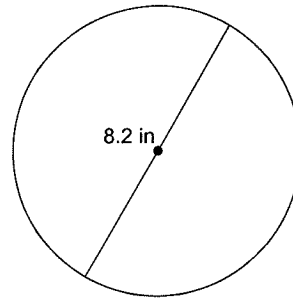
76)  $y = -x - 4$



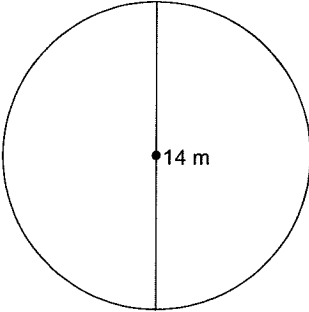
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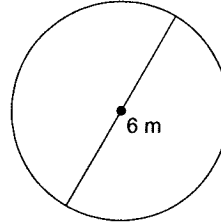
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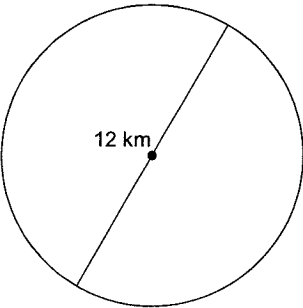
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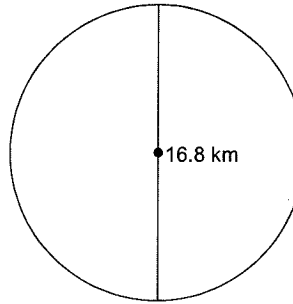
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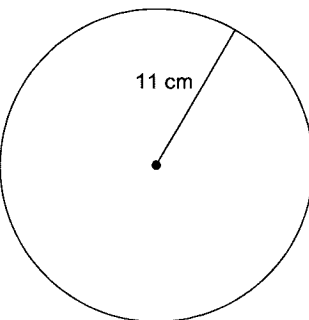


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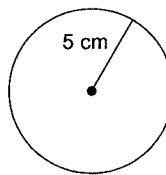


**Find the area of each. Round your answer to the nearest hundredth.**

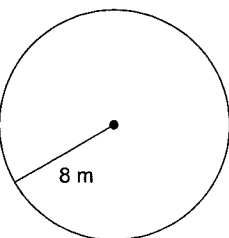
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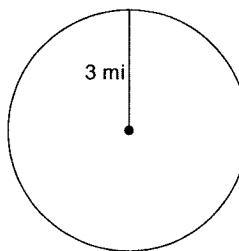
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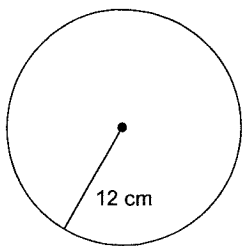
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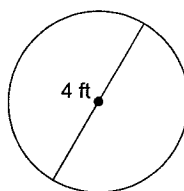
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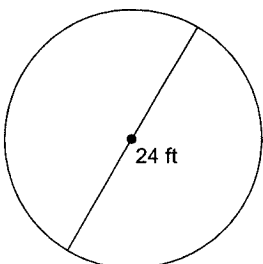
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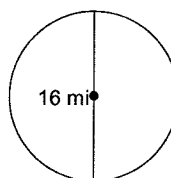
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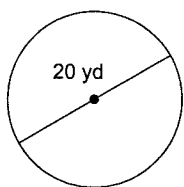
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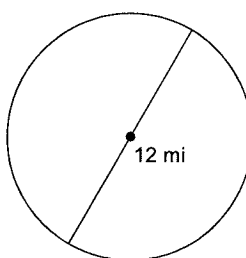
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101)

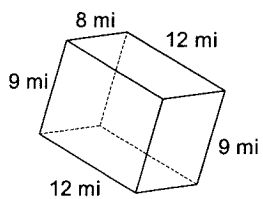


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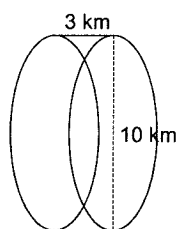


**Find the volume of each figure.**

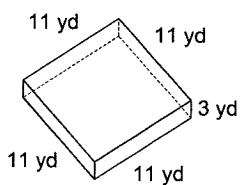
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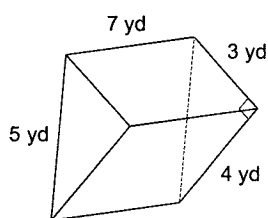
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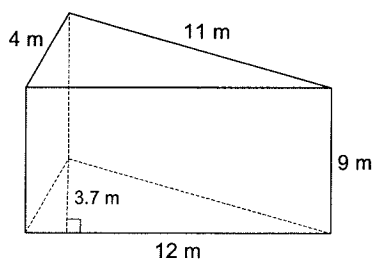
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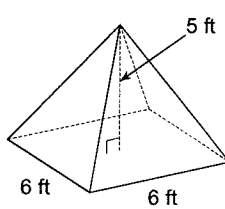
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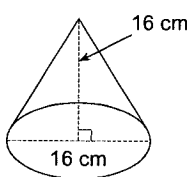
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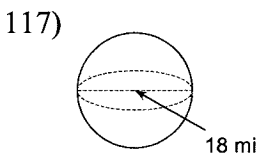
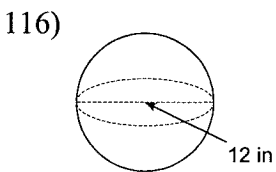
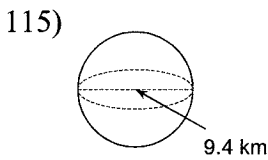
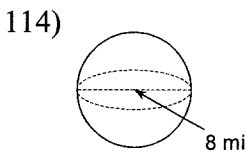
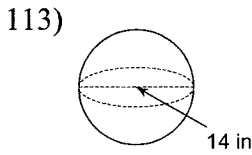
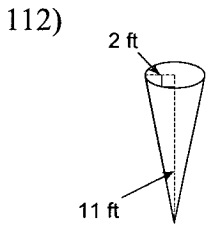
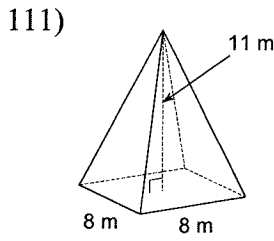
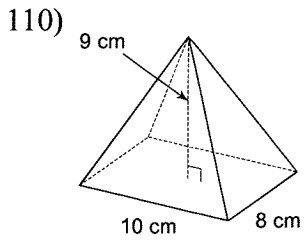


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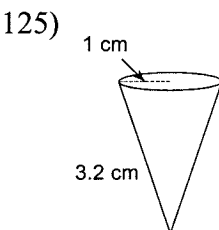
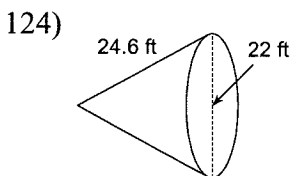
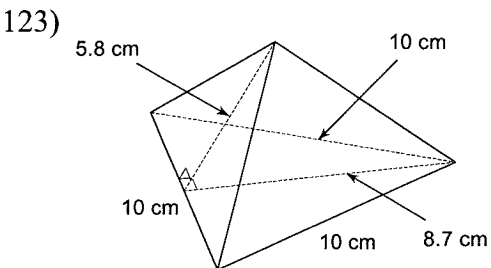
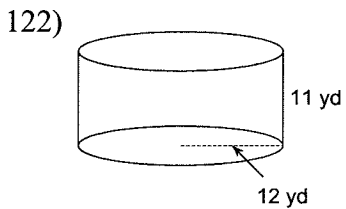
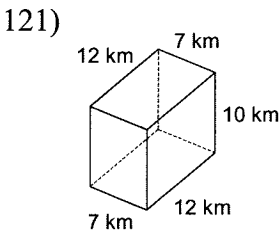
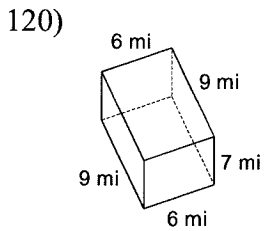
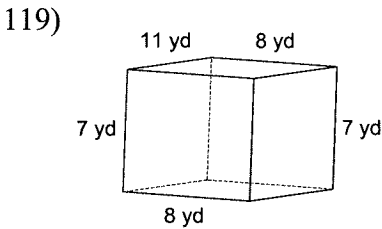
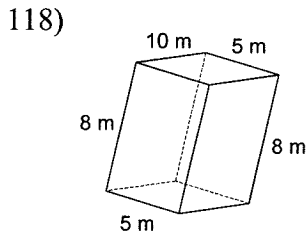


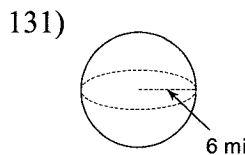
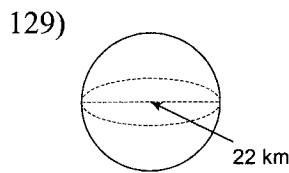
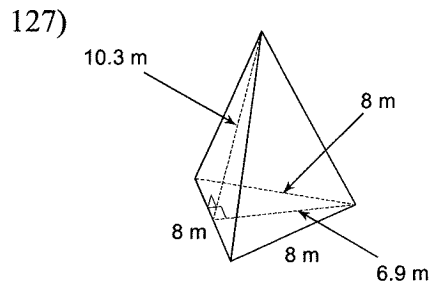
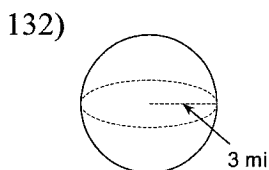
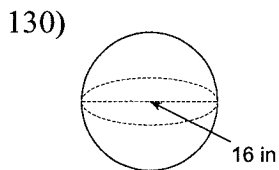
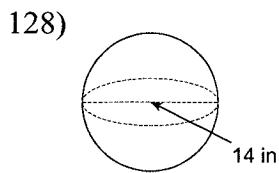
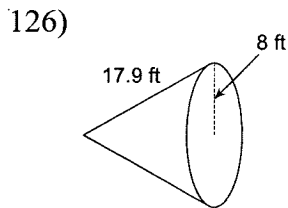
109)





**Find the surface area of each figure.**





**Answer each question and round your answer to the nearest whole number.**

- 133) Micaela reduced the size of a photo to a height of 4 in. What is the new width if it was originally 5 in wide and 20 in tall?
- 134) One package of fresh chives costs \$2. How many packages of fresh chives can you buy for \$16?
- 135) Willie enlarged the size of a rectangle to a height of 7 in. What is the new width if it was originally 1 in tall and 2 in wide?
- 136) Darryl enlarged the size of a painting to a height of 3 in. What is the new width if it was originally 1 in tall and 4 in wide?
- 137) A photo is 18 in wide and 6 in tall. If it is reduced to a width of 3 in, then how tall will it be?
- 138) A model satellite is 8 in wide. If it was built with a scale of 2 in : 3 ft, then how wide is the real satellite?
- 139) A model statue is 3 in wide. If it was built with a scale of 1 in : 3 ft, then how wide is the real statue?
- 140) A model car has a scale of 4 in : 2 ft. If the model car is 28 in long, then how long is the real car?
- 141) If a 8 ft tall tent casts a 4 ft long shadow, then how tall is an adult giraffe that casts a 8 ft shadow?
- 142) A model satellite has a scale of 5 cm : 2 m. If the model satellite is 35 cm wide, then how wide is the real satellite?

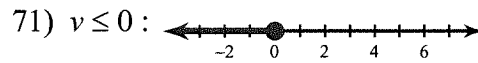
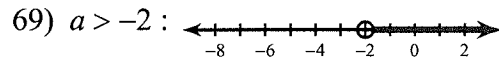
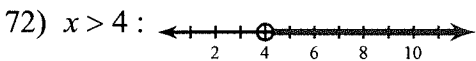
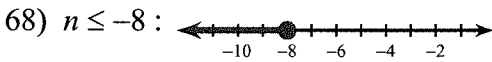
**Solve each problem.**

- 143) What percent of 101 is 88?
- 144) 72 is 70% of what?
- 145) 62% of what is 137?
- 146) 120 is 40% of what?
- 147) 230% of what is 59.1?

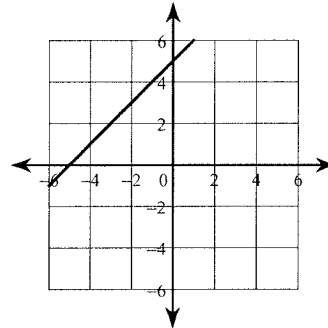
## Answers to Study Guide Final Test

- |  |                                   |  |                        |
|--|-----------------------------------|--|------------------------|
| 1) 4                                       | 2) 20                             | 3) 14                                      | 4) -46                 |
| 5) -8                                      | 6) 11                             | 7) -5                                      | 8) -8                  |
| 9) -2                                      | 10) 26                            | 11) -1                                     | 12) 3                  |
| 13) -9                                     | 14) -1                            | 15) 56                                     | 16) 84                 |
| 17) -91                                    | 18) 30                            | 19) 0                                      | 20) -18                |
| 21) -8                                     | 22) 8                             | 23) -6                                     | 24) -14                |
| 25) -2                                     | 26) 3.3                           | 27) 8.5                                    | 28) 9.5                |
| 29) 4                                      | 30) 10.2                          | 31) Commutative Property of Addition       |                        |
| 32) Commutative Property of Multiplication |                                   | 33) Associative Property of Multiplication |                        |
| 34) Associative Property of Addition       |                                   | 35) Distributive Property                  | 36) Additive Inverse   |
| 37) Multiplicative Inverse                 | 38) Identity Property of Addition |  |                        |
| 39) Identity Property of Multiplication    |                                   | 40) Symmetric Property                     | 41) 19                 |
| 42) 89                                     | 43) 31                            | 44) \$6                                    | 45) 50                 |
| 46) 32 fl oz per carton                    | 47) 36 straws per box             | 48) \$1.53 per pound                       | 49) 3 miles per minute |
| 50) 3 miles per minute                     | 51) \$0.36 per oz.                |  |                        |

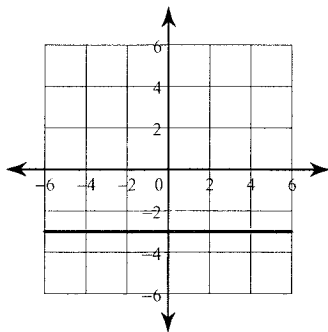
- |                |              |               |              |
|----------------|--------------|---------------|--------------|
| 53) 17,297,280 | 54) 336      | 55) 1,663,200 | 56) 5040     |
| 57) 1320       | 58) 220      | 59) 6188      | 60) 6        |
| 61) 3060       | 62) 330      | 63) $\{-3\}$  | 64) $\{-2\}$ |
| 65) $\{4\}$    | 66) $\{-5\}$ | 67) $\{-5\}$  |              |



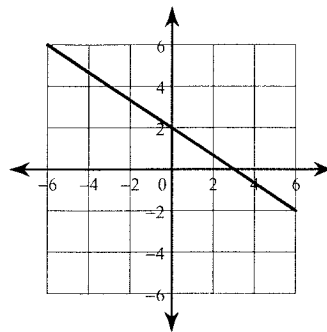
73)



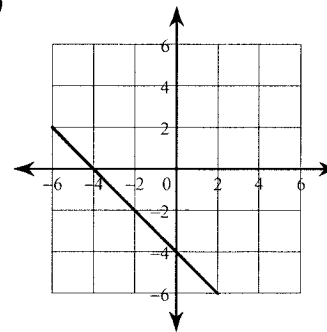
74)



75)

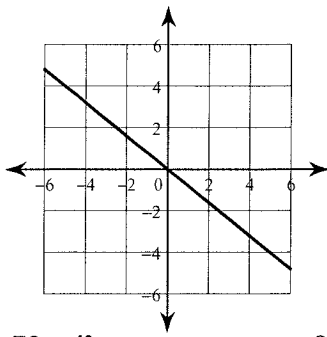


76)





77)

78)  $63 \text{ km}^2$ 79)  $7.5 \text{ yd}^2$ 80)  $79 \text{ mi}^2$ 84)  $37.1 \text{ ft}$ 88)  $25.8 \text{ in}$ 92)  $52.8 \text{ km}$ 96)  $28.3 \text{ mi}^2$ 100)  $201.1 \text{ mi}^2$ 104)  $235.6 \text{ km}^3$ 108)  $60 \text{ ft}^3$ 112)  $46.1 \text{ ft}^3$ 116)  $904.8 \text{ in}^3$ 120)  $318 \text{ mi}^2$ 124)  $1230.2 \text{ ft}^2$ 128)  $615.8 \text{ in}^2$ 132)  $113.1 \text{ mi}^2$ 136)  $12 \text{ in}$ 140)  $14 \text{ ft}$ 144)  $102.9$ 81)  $46.2 \text{ mi}^2$ 85)  $64.1 \text{ ft}$ 89)  $44 \text{ m}$ 93)  $380.1 \text{ cm}^2$ 97)  $452.4 \text{ cm}^2$ 101)  $314.2 \text{ yd}^2$ 105)  $363 \text{ yd}^3$ 109)  $1072.3 \text{ cm}^3$ 113)  $1436.8 \text{ in}^3$ 117)  $3053.6 \text{ mi}^3$ 121)  $548 \text{ km}^2$ 125)  $13.2 \text{ cm}^2$ 129)  $1520.5 \text{ km}^2$ 133)  $1 \text{ in}$ 137)  $1 \text{ in}$ 141)  $16 \text{ ft}$ 145)  $221$ 82)  $100 \text{ in}^2$ 86)  $38.3 \text{ ft}$ 90)  $18.8 \text{ m}$ 94)  $78.5 \text{ cm}^2$ 98)  $12.6 \text{ ft}^2$ 102)  $113.1 \text{ mi}^2$ 106)  $42 \text{ yd}^3$ 110)  $240 \text{ cm}^3$ 114)  $268.1 \text{ mi}^3$ 118)  $340 \text{ m}^2$ 122)  $1734.2 \text{ yd}^2$ 126)  $650.9 \text{ ft}^2$ 130)  $804.2 \text{ in}^2$ 134)  $8$ 138)  $12 \text{ ft}$ 142)  $14 \text{ m}$ 146)  $300$ 83)  $27 \text{ in}$ 87)  $74.8 \text{ ft}$ 91)  $37.7 \text{ km}$ 95)  $201.1 \text{ m}^2$ 99)  $452.4 \text{ ft}^2$ 103)  $864 \text{ mi}^3$ 107)  $199.8 \text{ m}^3$ 111)  $234.7 \text{ m}^3$ 115)  $434.9 \text{ km}^3$ 119)  $442 \text{ yd}^2$ 123)  $130.5 \text{ cm}^2$ 127)  $151.2 \text{ m}^2$ 131)  $452.4 \text{ mi}^2$ 135)  $14 \text{ in}$ 139)  $9 \text{ ft}$ 143)  $87.1\%$ 147)  $25.7$