

HW7.

Section 7.1 Exercise

17-23, 25-32, page 300.

17. point

18. critical value

19. margin of error

20. increase

21. True

22. False.

23. True

25. 1.96

26. 1.44

27. 2.05

28. 2.97

29. 98%

30. 99%

31. 99.5%

32. 70%.

43, page 301.

a. $\bar{x} \pm z_{0.055} \frac{\sigma}{\sqrt{n}} = 458 \pm 2.576 \frac{116}{\sqrt{100}} = 458 \pm 30 = (428, 488).$

b. The margin of error would be larger with a smaller sample size.

Note margin of error $= z \frac{\sigma}{\sqrt{n}}$, a smaller n will make it larger.

c. The margin of error will be smaller for a lower confidence level because the critical value z will be smaller.

d. Since 500 is not included in the confidence interval, it is unlikely the mean score is greater than 500.