

23. Simplify and state any restrictions. (Sec. 8.4)

$$\frac{4x^2-2x}{x^2+5x+4} \div \frac{2x}{x^2+2x+1} = \frac{2x(2x-1)}{(x+4)(x+1)} \cdot \frac{(x+1)(x+1)}{2x} = \frac{(2x-1)(x+1)}{(x+4)}$$

restrictions $x \neq -4, -1, 0$

24. Simplify the sum. State any restrictions. (Sec. 8.5)

$$\frac{3x}{x^2-4} + \frac{6}{x+2} = \frac{3x}{(x+2)(x-2)} + \frac{6(x-2)}{(x+2)(x-2)} = \frac{3x+6(x-2)}{(x+2)(x-2)} = \frac{9x-12}{(x+2)(x-2)} = \frac{3(3x-4)}{(x+2)(x-2)}$$

restrictions $x \neq 2, -2$

25. Solve: (Sec. 8.6)

$$\frac{1}{x} \neq \frac{5}{x-4}$$

$$5x = x-4$$

$$4x = -4$$

$$x = -1$$

26. Evaluate: ${}_{10}C_5$ (Sec. 11.1)

252

27. Convert to either radians or degrees. (Sec. 13.2)

a. $\frac{2\pi}{5} \cdot \frac{180}{\pi}$

$$72^\circ$$

b. $-130^\circ \cdot \frac{\pi}{180}$

$$-\frac{13\pi}{18}$$

c. $4\pi \cdot \frac{180}{\pi}$

$$720^\circ$$

28. A computer lab has 10 computers. Some have CD drives and some have DVD drives. (Sec. 11.4)
Some are new and some are used. A student picks a computer at random. Use the table to find each probability.

	CD	DVD	Total
New	4	3	7
Used	2	1	3
Total	6	4	10

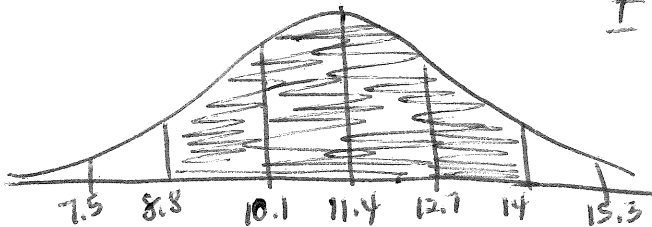
a. $P(\text{computer is new given it has a CD})$

$$\frac{4}{6} = \frac{2}{3}$$

b. $P(\text{computer is new and has a CD drive})$

$$\frac{4}{10} = \frac{2}{5}$$

29. A local bakery makes chocolate chip cookies. The number of chocolate chips in the cookies is approximately normally distributed, with mean 11.4 and standard deviation 1.3. What percent of the cookies have between 8.8 and 14 chocolate chips? (Sec. 11.10)



± 2 standard deviations

95%

NON - Calculator Questions

1. The weight in pounds of newborn calves on a farm is distributed normally, with a mean of 85 and a standard deviation of 4. What percent of newborn calves on the farm weigh between 77 lb and 89 lb? (Sec. 11.10)



$$47.5\% + 34\% = 81.5\%$$

2. Identify the type of study method described in each situation, and explain whether the sample statistics should be used to make a general conclusion about the population.

Researchers want to test a new fertilizer for corn. They apply the fertilizer to one field of corn and give no fertilizer to a second field of corn. Both fields are the same size, have the same type of soil, and receive the same amount of water and sunlight. The researchers record the weight of the corn produced in each field.

controlled experiment

3. Graph $y = -3(x+1)^2 + 5$

$$V: (-1, 5)$$

