Skills Practice

Probability

Ahmed is posting 2 photographs on his website. He has narrowed his choices to 4 landscape photographs and 3 portraits. If he chooses the two photographs at random, find the probability of each selection.

1. P(2 portrait) $\dfrac{1}{7}$

2. P(2 landscape) $\dfrac{2}{7}$

3. P(1 of each) $\dfrac{4}{7}$

The Carubas have a collection of 28 video movies, including 12 westerns and 16 science fiction. Elise selects 3 of the movies at random to bring to a sleep-over at her friend's house. Find the probability of each selection.
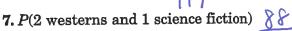
4. P(3 westerns) $\dfrac{55}{819}$

5. P(3 science fiction) $\dfrac{20}{117}$

6. P(1 western and 2 science fiction) $\dfrac{40}{91}$

7. P(2 westerns and 1 science fiction) $\dfrac{88}{273}$

8. P(3 comedy) 0

9. P(2 science fiction and 2 westerns) 0

For Exercises 10–13, use the chart that shows the class and gender statistics for the students taking an Algebra 1 or Algebra 2 class at La Mesa High School.

If a student taking Algebra 1 or Algebra 2 is selected at random, find each probability. Express as decimals rounded to the nearest thousandth.

Class/Gender	Number
Freshman/Male	95
Freshman/Female	101
Sophomore/Male	154
Sophomore/Female	145
Junior/Male	100
Junior/Female	102

10. P(sophomore/female) 0.208

11. P(junior/male) 0.143

12. P(freshman/male) 0.136

13. P(freshman/female) 0.145

Find the odds of an event occurring, given the probability of the event.

14. $\dfrac{5}{8}$ $5:3$

15. $\dfrac{2}{7}$ $2:5$

16. $\dfrac{3}{5}$ $3:2$

17. $\dfrac{1}{10}$ $1:9$

18. $\dfrac{5}{6}$ $5:1$

19. $\dfrac{5}{12}$ $5:7$

Find the probability of an event occurring, given the odds of the event.

20. 2:1 $\dfrac{2}{3}$

21. 8:9 $\dfrac{8}{17}$

22. 4:1 $\dfrac{4}{5}$

23. 1:9 $\dfrac{1}{10}$

24. 2:7 $\dfrac{2}{9}$

25. 5:9 $\dfrac{5}{14}$