1 Practice • • • • • • • • • • • • • • • • • Making Decisions with Probability

Directions: Use the terms you learned on page 5 to help explain your decisions for the following situations.

1. Glenda overheard on the radio that the weather forecast called for an 80% chance of rain. Should she pack her umbrella in her book bag?

_____

_____

_____

2. Mark is playing a board game with his friend Albert. He needs to spin a 5 to win the game. He has a 10% chance of spinning the number he needs. Should he expect to win on this turn?

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_____

3. Reread situation number 2. Would Mark be more likely to win if his chance of spinning a 5 were 50% instead of 10%? Compare these two probabilities. How might a 50% chance at a win on this turn affect the game?

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_____

4. Erin expects a surprise party for her birthday. She is 95% sure this event will occur. Why might she feel almost certain?

_____

_____

_____

5. James has a choice of getting either a hot dog or a hamburger for lunch. Can you correctly predict which he will receive? Why or why not?

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_____

6. Players of a popular carnival game win 30% of the time. Would you play this game if it cost only 25¢ to play? What if a play cost $1.00? Why or why not?

_____

_____

_____

Page 6

1. I; 0% or 0
2. C; 100% or 1
3. C; 100% or 1
4. C; 100% or 1
5. C; 100% or 1
6. I; 0% or 0
7. C; 100% or 1
8. I; 0% or 0
9. I; 0% or 0
10. I; 0% or 0

Page 7

Answers will vary.

Page 8

Check students' answers.

1. yes
2. no
3. yes
4. Answers will vary.
5. No. Each event is equally likely.
6. Answers will vary.

Page 10

1. 2/5
2. 2/5
3. 1/5
4. 0/5
5. 3/10
6. 2/10 or 1/5
7. 1/10
8. 5/10 or 1/2
9. 5/10 or 1/2
10. John's
11. No. She only has a 1/10 chance.
12. 5/26
13. 21/26
14. 1/26
15. 0/26
16. 9/26
17. 3/26

Page 11

1. .1 or .10; 10%
2. .1 or .10; 10%
3. .3 or .30; 30%
4. .3 or .30; 30%
5. .1 or .10; 10%
6. .5 or .50; 50%
7. .4 or .40; 40%
8. .0 or .00; 0%
9. .2 or .20; 20%
10. .5 or .50; 50%

Page 12

1. 46/100; 0.46; 46%
2. 7/100; .07; 7%
3. 46/100; .46; 46%
4. 1/50; .02; 2%
5. 34/50; .68; 68%
6. 8/50; .16; 16%
7. carp
8. tin

Page 14

1. 8/20 < 12/20
   .4 < .6
   40% < 60%
2. 4/20 < 16/20
   .2 < .8
   20% < 80%
3. 3/20 <17/20
   .15 < .85
   15% < 85%
4. 3/20 <17/20
   .15 < .85
   15% < 85%
5. 5/20 < 15/20
   .25 < .75
   25% < 75%
6. 20/20 > 0/20
   1.0 > 0
   100% > 0%
7. 12/20 > 8/20
   .6 > .4
   60% > 40%
8. 2/20 < 18/20
   .1 < .9
   10% < 90%
9. 0/20 < 20/20
   0 < 1.0
   0% < 100%
10. 10/20 = 10/20
    .5 = .5
    50% = 50%

Page 15

1. 35
2. 30
3. 42
4. 400
5. 1/4
6. 1/25
7. 1/4
8. 1/64
9. 1/8

Page 16

1. 8
2. 6
3. 72
4. 15; at, as, is, it, us, be, by, do, he, hi, ha, ho, so, to, go

Page 18

1. Ronnie's Relics
2. Jerry's Junk House
3. Amy's Afterthoughts and Sarah's Sellables
4. Highest "Profit to You"; lowest % merchandise sold
5. Answers will vary.

Page 19

1. Denver
2. Houston gets nearly twice as much rain as Denver in the same amount of time.
3. Anchorage—clothes for cooler climate; Washington—clothes for warmer climate.
4. Answers will vary.
5. Denver
6. Houston
7. They have similar amounts; slightly higher in Burlington.
8. Answers will vary.

Page 20

1. They increase.
2. Likely
3. Almost 100%
4. Insects
5. 1–10%

Page 22

1. 8:3; 8 to 3; 8/3
2. 5:6; 5 to 6; 5/6
3. 5:22; 5 to 22; 5/22
4. 22:5; 22 to 5; 22/5
5. 6:8; 6 to 8; 6/8
6. 5:8; 5 to 8; 5/8
7. 3:8; 3 to 8; 3/8
8. 12:15; 12 to 15; 12/15
9. 15:12; 15 to 12; 15/12
10. 10:10; 10 to 10; 10/10
11. 50:15; 50 to 15; 50/15
12. 97:50; 97 to 50; 97/50
13. 10:97; 10 to 97; 10/97
14. 10:10; 10 to 10; 10/10
15. 0:10; 0 to 10; 0/10

Page 23

1. chewy and chocolates
2. chewy to cotton or chocolates to cotton or lollipops to fudge
3. rock to sticks
4. fudge to sticks
5. rock to lollipops
6. cotton to fudge
7. 5
8. 25
9. 25
10. 200

Page 24

1. 26:26 or 1:1
2. 26:26 or 1:1
3. 13:39 or 1:3
4. 4:48 or 1:12