

Problem Set

Α.

- 1. Independent events ✓
- 2. Dependent events ✓
- 3. Dependent events ✓
- 4. Independent events ✓
- 5. Dependent events ✓

В.

- 1. P(milk chocolate and white chocolate)
 - $= P(\text{milk chocolate}) \cdot P(\text{white chocolate}|\text{milk chocolate}) \checkmark$ $= \frac{10}{24} \cdot \frac{6}{23} \checkmark$ $= \boxed{\frac{5}{46}} \checkmark$
- 2. P(stuffed animal and stuffed animal) ✓
 - $= P(\text{stuffed animal}) \cdot P(\text{stuffed animal}|\text{stuffed animal}) \checkmark$ $= \frac{8}{23} \cdot \frac{7}{22} \checkmark$ $= \boxed{\frac{28}{253}} \checkmark$
- 3. P(blue pen and blue pen) \checkmark $= P(blue pen) \cdot P(blue pen) \checkmark$ $= \frac{3}{9} \cdot \frac{2}{9} \checkmark$
- $= \boxed{27}$ 4. P(black and yellow) \checkmark $= P(black) \cdot P(yellow) \checkmark$ $= \frac{6}{21} \cdot \frac{4}{21} \checkmark$ $= \boxed{\frac{8}{147}} \checkmark$

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- = P(stuffed animal) · P(stuffed animal|stuffed animal) \checkmark = $\frac{8}{23} \cdot \frac{7}{22}$ \checkmark
 - $= \frac{1}{23} \cdot \frac{1}{22}$ $= \frac{28}{253} \checkmark$
- 3. P(blue pen and blue pen) ✓
 = P(blue pen) ⋅ P(blue pen) ✓
 - $= \frac{3}{9} \cdot \frac{2}{9} \checkmark$ $= \boxed{\frac{2}{27}} \checkmark$

147

4. P(black and yellow) \checkmark $= P(black) \cdot P(yellow) \checkmark$ $= \frac{6}{21} \cdot \frac{4}{21} \checkmark$

Probability of Dependent and Independent Events

Total points = 21

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- Independent events ✓
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- 3. Dependent events ✓
- Independent events ✓
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В.

- 1. P(milk chocolate and white chocolate) \checkmark
 - = P(milk chocolate) · P(white chocolate|milk chocolate) \checkmark = $\frac{10}{24} \cdot \frac{6}{23}$ \checkmark
 - $= \frac{1}{24} \cdot \frac{1}{23}$ $= \frac{5}{46} \checkmark$
- 2. P(stuffed animal and stuffed animal) ✓
 - = P(stuffed animal) · P(stuffed animal|stuffed animal) \checkmark = $\frac{8}{3} \cdot \frac{7}{3}$
 - $= \frac{8}{23} \cdot \frac{7}{22}$ $= \boxed{\frac{28}{253}} \checkmark$

8

147

- 3. P(blue pen and blue pen) ✓

 P(blue pen) → P(blue pen)
 - $= P(\text{blue pen}) \cdot P(\text{blue pen}) \checkmark$ $= \frac{3}{9} \cdot \frac{2}{9} \checkmark$ $= \frac{2}{27} \checkmark$
- 4. P(black and yellow) \checkmark $= P(black) \cdot P(yellow) \checkmark$ $= \frac{6}{21} \cdot \frac{4}{21} \checkmark$

Probability of Dependent and Independent Events

Total points = 21

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- 1. P(milk chocolate and white chocolate) ✓
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- 2. P(stuffed animal and stuffed animal) ✓
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