**Task card 1** Expected Value & Binomial Probabil...

The table shows the probability distribution of X. Find the expected value E(X).

| x | -4 | 5 | 7 | 9 |
|---|---|---|---|---|
| P(x) | 0.3 | 0.3 | 0.3 | 0.1 |

**Task card 2** Expected Value & Binomial Probabil...

A game costs nothing to enter. You win $5 with probability $\frac{1}{4}$; otherwise you lose $3. What is the expected value of the game in dollars? (Use a negative number for an expected loss.)

**Task card 3** Expected Value & Binomial Probabil...

A fair die is rolled 4 times. What is the probability of rolling a 1 exactly 3 times? (fraction)

**Task card 4** Expected Value & Binomial Probabil...

30% of the parts from a machine are defective. In a random sample of 5 parts, what is the probability that exactly 4 are defective? Round to the nearest thousandth.

**Task card 5** Expected Value & Binomial Probabil...

A fair coin is tossed 5 times. What is the probability of getting exactly 1 heads? (fraction)

**Task card 6** Expected Value & Binomial Probabil...

10% of the parts from a machine are defective. In a random sample of 8 parts, what is the probability that exactly 3 are defective? Round to the nearest thousandth.

**Task card 7** Expected Value & Binomial Probabil...

A fair coin is tossed 5 times. What is the probability of getting exactly 3 heads? (fraction)

**Task card 8** Expected Value & Binomial Probabil...

A fair coin is tossed 4 times. What is the probability of getting exactly 4 heads? (fraction)

**Task card 9** Expected Value & Binomial Probabil...

The table shows the probability distribution of X. Find the expected value E(X).

| x | -3 | -2 | 8 | 10 |
|---|---|---|---|---|
| P(x) | 0.3 | 0.2 | 0.3 | 0.2 |

**Task card 10** Expected Value & Binomial Probabil...

A game costs nothing to enter. You win $43 with probability $\frac{1}{4}$; otherwise you lose $5. What is the expected value of the game in dollars? (Use a negative number for an expected loss.)

**Task card 11** Expected Value & Binomial Probabil...

A fair die is rolled 2 times. What is the probability of rolling a 6 exactly 1 time? (fraction)

**Task card 12** Expected Value & Binomial Probabil...

60% of the parts from a machine are defective. In a random sample of 7 parts, what is the probability that exactly 1 is defective? Round to the nearest thousandth.

**Task card 13** Expected Value & Binomial Probabil...

A fair coin is tossed 6 times. What is the probability of getting exactly 6 heads? (fraction)

**Task card 14** Expected Value & Binomial Probabil...

80% of the parts from a machine are defective. In a random sample of 6 parts, what is the probability that exactly 2 are defective? Round to the nearest thousandth.

**Task card 15** Expected Value & Binomial Probabil...

A fair coin is tossed 8 times. What is the probability of getting exactly 5 heads? (fraction)

**Task card 16** Expected Value & Binomial Probabil...

90% of the parts from a machine are defective. In a random sample of 6 parts, what is the probability that exactly 3 are defective? Round to the nearest thousandth.

**Task card 17** Expected Value & Binomial Probabil...

The table shows the probability distribution of X. Find the expected value E(X).

| x | -3 | -1 | 4 | 5 |
|---|---|---|---|---|
| P(x) | 0.1 | 0.3 | 0.4 | 0.2 |

**Task card 18** Expected Value & Binomial Probabil...

A game costs nothing to enter. You win $57 with probability $\frac{1}{6}$; otherwise you lose $3. What is the expected value of the game in dollars? (Use a negative number for an expected loss.)

**Task card 19** Expected Value & Binomial Probabil...

A fair die is rolled 2 times. What is the probability of rolling a 2 exactly 1 time? (fraction)

**Task card 20** Expected Value & Binomial Probabil...

40% of the parts from a machine are defective. In a random sample of 4 parts, what is the probability that exactly 2 are defective? Round to the nearest thousandth.

**Task card 21** Expected Value & Binomial Probabil...

A fair coin is tossed 6 times. What is the probability of getting exactly 0 heads? (fraction)

**Task card 22** Expected Value & Binomial Probabil...

60% of the parts from a machine are defective. In a random sample of 5 parts, what is the probability that exactly 4 are defective? Round to the nearest thousandth.

**Task card 23** Expected Value & Binomial Probabil...

20% of the parts from a machine are defective. In a random sample of 6 parts, what is the probability that exactly 2 are defective? Round to the nearest thousandth.

**Task card 24** Expected Value & Binomial Probabil...

The table shows the probability distribution of X. Find the expected value E(X).

| x | -5 | -4 | 7 | 10 |
|---|---|---|---|---|
| P(x) | 0.3 | 0.1 | 0.1 | 0.5 |

# Expected Value & Binomial Probability Task Cards

Recording sheet · Grade 12 · Solve each problem. Give probabilities as fractions in simplest form or as decimals rounded the way the problem says.

Scan to check your answers

Name: _____ Date: _____

| | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 |

# Expected Value & Binomial Probability Task Cards: Answer Key

Grade 12 · Hard

The answers online

| | | |
|---|---|---|
| **1.** 3.3 | **2.** -1 | **3.** $\frac{5}{324}$ |
| **4.** 0.028 | **5.** $\frac{5}{32}$ | **6.** 0.033 |
| **7.** $\frac{5}{16}$ | **8.** $\frac{1}{16}$ | **9.** 3.1 |
| **10.** 7 | **11.** $\frac{5}{18}$ | **12.** 0.017 |
| **13.** $\frac{1}{64}$ | **14.** 0.015 | **15.** $\frac{7}{32}$ |
| **16.** 0.015 | **17.** 2 | **18.** 7 |
| **19.** $\frac{5}{18}$ | **20.** 0.346 | **21.** $\frac{1}{64}$ |
| **22.** 0.259 | **23.** 0.246 | **24.** 3.8 |