

Binomial Distribution Worksheet Answers #3-5

binomial pdf (n, p, x)

n = # of trials

p = probability of success

x = # of successes

③

$$n = 10$$

$$p = \frac{1}{4}$$

a) $x = 4$

$$.146$$

b) $x = 0, 1, \text{ or } 2$

$$.526 + .244 + .056 = .826$$

c) $x = 9 \text{ or } 10$

$$.0000286 + .000000954$$

$$= .0000296$$

d) $x = 4, 5, \text{ or } 6$

$$.146 + .058 + .016$$

$$.220$$

④

$$n = 15, p = .43$$

a) $x = 1$

$$.0025$$

b) $x = 0, 1, 2, 3, \text{ or } 4$

$$.000218 + .00246 + .013 + .0425 + .0963 = .154$$

c) $x = 10, 11, 12, 13, 14, \text{ or } 15$

$$.039 + .013 + .0034 + .000586 + .0000632 + .00000318$$

$$= .056$$

d) $x = 8, 9, \text{ or } 10$

$$.147 + .086 + .039 = .272$$

5) a) $n=16, p=.35, x=5$.201

b) $n=16, p=1-.35 = \underline{.65}, x=5$.005

c) $x = 4, 5, 6, \dots, 16$ $p = .35$

$$1 - P(x = 0, 1, 2, \text{ or } 3)$$

$$1 - (.00102 + .00875 + .0353 + .0888)$$

$$1 - .134$$

.866

d) $n=16, p=.65, x = 4, 5, 6, \dots, 16$

$$1 - P(x = 0, 1, 2, \text{ or } 3)$$

$$1 - (.0000000507 + .00000151 + .0000210 + .000182)$$

$$1 - .000205$$

.9998