

A1 p 401-404 / 18, 20, 22, 28, 31, 34

18 ① Arrows 80% bull's-eye
shoots 6

20 ②

① 1st BE on 3rd
geom pdf (.8, 3) = **0.032**

② misses at least once
 $1 - P(\text{bull's-eye})$
P(X ≤ 5) = makes 5 or less (when doesn't matter so...)
or binomcdf(6, .8, 5) = **0.738**

③ 1st BE on 4th or 5th (measure until success so...)
geom pdf (.8, 4) + geom pdf (.8, 5) = **0.00768**
 $(.2)^3 (.8) + (.2)^4 (.8)$
.0064 + .00128

22 ③

④ exactly 4 BE (number not when/idea so...)
binompdf(6, .8, 4) = **0.246**

$$\binom{6}{4} (.8)^4 (.2)^2 = \binom{6}{4} \frac{3 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}{4 \cdot 3 \cdot 2 \cdot 1 (2 \cdot 1)}$$

* ⑤ at least 4 BE ⇒ 4, 5, 6 (no when so...)
TI 83/84 → $1 - P(0, 1, 2, 3)$
N/A T89 $1 - \text{binomcdf}(6, .8, 3)$
 $1 - 0.0988 = \mathbf{0.901}$

⑥ at most 4 BE ⇒ 0, 1, 2, 3 (no when so...)
binomcdf(6, .8, 4) = **0.345**