Example 2: How Software Risk Master (SRM) Evaluates Software Quality Results				
	Java Language for all 3 Cases			
	1000 function points for all 3 Cases			
	$10,000 per month for all 3 Cases			
	Iterative development for all 3 Cases			
	132 effective work hours per month for all 3 Cases			
	Note: example uses round numbers for clarity.			
	Function points, defect potentials, and removal efficiency come from IBM			
	2017 is the 30th anniversary of IFPUG function point metrics			
	Poor Quality Control	**Average Quality Control**	**High Quality Control**	
Team Experience	**Novice**	**Average**	**Expert**	**Expert teams are best in software quality control**
Defect potential per FP				
Requirements defects	1.00	0.75	0.25	**Defect potentials includes all defect sources**
Design defects	1.50	1.00	0.50	
Code defects	2.25	1.15	0.75	
Document defects	0.80	0.60	0.40	
Bad fixes	0.70	0.40	0.10	**Bad fix = new bugs in bug repairs**
TOTAL DEFECTS	**6.25**	**3.90**	**2.00**	**Expert teams have low defect potentials**
Defect potentials				
Requirements defe	**1,000**	**750**	**250**	
Design defects	**1,500**	**1,000**	**500**	

Code defects	**2,250**	**1,150**	**750**	**Code defects are < 30% of total defects**
Document defects	**800**	**600**	**400**	
Bad fixes	**700**	**400**	**100**	
TOTAL DEFECT PO	**6,250**	**3,900**	**2,000**	**Expert teams have low defect potentials**
Defect Prevention Efficiency				
JAD	0.00%	22.50%	26.00%	**JAD = Joint Application Design**
QFD	0.00%	0.00%	28.00%	**QFD = Quality Function Deployment**
Prototype	20.00%	20.00%	25.00%	
Models	0.00%	0.00%	62.00%	**Models are cost effective and efficient**
TOTAL	**20.00%**	**37.02%**	**81.19%**	**Defect prevention can eliminate many bugs**
Defects remaining	**4,835**	**2,456**	**312**	**Defect prevention is cost effective and efficient**
Pre-Test Removal Efficiency				
Desk check	20.00%	25.00%	26.00%	**Pre-test removal is key to good quality control**
Pair programming	0.00%	0.00%	0.00%	**Pair programming is expensive and inefficient**
Static analysis	0.00%	55.00%	59.00%	**Static analysis is cost effective and efficient**
Inspections	0.00%	0.00%	85.00%	**Inspections are cost effective and efficient**
TOTAL	**20.00%**	**62.01%**	**94.81%**	**High quality removes < 90% of bugs before test**
Defects remaining	**4,081**	**933**	**15**	**Pre-test removal raises test efficiency too**
Test Removal Efficiency				

Unit test	27.50%	30.00%	32.40%	**Up to 18 different kinds of testing are known; most projects use only 7**
Function test	30.50%	33.00%	35.64%	
Regression test	9.50%	12.00%	12.96%	
Component test	27.50%	30.00%	32.40%	
Performance test	7.50%	10.00%	10.80%	
System test	31.50%	34.00%	36.72%	
Acceptance test	12.50%	15.00%	16.20%	
TOTAL	**76.80%**	**81.60%**	**88.13%**	**Most forms of testing are < 35% removal efficiency**
Defects remaining	**972**	**177**	**8**	
CUMULATIVE EFF	**83.77%**	**95.46%**	**99.81%**	**High quality > 99% defect removal efficiency (DRE)**
DELIVERED DEFE	**972**	**177**	**8**	**High quality has few delivered defects**
HIGH-SEVERITY I	**107**	**11**	**0**	**High quality has few serious bugs**
SECURITY FLAWS	**15**	**3**	**0**	**High quality has few security flaws**
DEFECT REMOVAI	**$3,595,000**	**$1,035,750**	**$784,284**	**High quality is cheaper than poor quality**
Delivered defects p	**0.97**	**0.18**	**0.01**	**Function points are best metric for quality data**
Defect removal $ p	**$3,595.00**	**$1,035.75**	**$784.28**	**Function points are best metric for quality costs**

% of high-severity c	764.29%	100.00%	0.00%	Low severe bugs are #1 sign of high quality
% of delivered secu	595.24%	100.00%	0.00%	Low security flaws are #2 sign of high quality
% of average delive	549.15%	100.00%	4.52%	Low delivered defects are #3 sign of high quality
% of average defect	160.26%	100.00%	51.28%	Low defect potentials are #4 sign of high quality
% of average cost o	347.09%	100.00%	75.72%	Low COQ is #5 sign of high quality
% of average remov	87.75%	100.00%	104.56%	High removal efficiency is #6 sign of high quality
		END OF EXAMPLE		