**PMP® Exam Math: Four Sample Questions ANSWERS**

**1) Communication Channels.**

There are ten project team members and 2 suppliers. How many communications channels are there?

1. 72
2. 66
3. 61
4. 55

**ANSWER**

**Communication channels = n (n-1) / 2**

 **= (12 \* 11) / 2**

 **= 132 / 2**

 **= 66**

**2) Earned Value Management.**

You have completed 200 tasks that have a total budget of $405,000. According to

the project schedule you should have completed 220 tasks with a total budget of

$450,000. The actual cost of the tasks completed is $405,000. What is the cost performance index?

1. 1.11
2. 1.0
3. 0.9
4. CPI cannot be calculated

**ANSWER**

**EV = $405,000**

**PV = $450,000**

**AC = $405,000**

**CPI = EV/AC**

 **= 405,000/405,000**

 **= 1.0**

**3) Cost Estimating.**

Using PERT analysis technique calculate the cost estimate.

optimistic $640

most likely $860

pessimistic $1,560

1. $830
2. $860
3. $940
4. $1,020

**Answer: = [$640 + 4 ($860) + $1,560] / 6**

 **= [$640 + $3440 + $1,560] / 6**

 **= $5640 / 6**

 **= $940**

**4) Expected Value.**

There are three possible outcomes for an event each with a probability and a result. What is the expected value?

Probability Result of Risk

 65% -$ 90,000

 20% +$ 40,000

 15% +$ 30,000

a) - $66,500

b) - $46,000

c) $46,000

d) $55,000

**Answer:**

**0.65 \* - $90,000 = - $58,500**

**0.20 \* $40,000 = $ 8,000**

**0.15 \* $30,000 = $ 4,500**

**Sum = - $46,000**