INDIRECT COST CALCULATION [IN REVERSE]

YOU WANT TO CALCULATE THE DIRECT COSTS
YOU KNOW WHAT THE TUITION, STIPEND AND EQUIPMENT COSTS ARE
YOU KNOW WHAT THE TOTAL COST IS
CALCULATION IS USING THE 2010 FED F&A RATE FOR WSU OF 52% (.52)

[DIRECT COST – TUITION – STIPEND – EQUIPMENT] (.52) + DIRECT COST = TOTAL COST

(.52)DIRECT COST + 1 DIRECT COST -(.52) [TUITION + STIPEND + EQUIPMENT] = TOTAL COST
OR USE THE FORMAT LISTED BELOW – SAME EQUATION
(.52)DIRECT COST – (.52) (tuition) – (.52) (stipend) – (.52) (equipment) + 1 DIRECT = TOTAL COST

(1 + .52) DIRECT COST = TOTAL COST + (.52) (tuition) + (.52) (stipend) + (.52) (equipment)
1.52 DIRECT COST = TOTAL COST + (.52) (tuition) + (.52) (stipend) + (.52) (equipment)
DIRECT COST = [TOTAL COST + (.52) (tuition) + (.52) (stipend) + (.52) (equipment)] / divided by 1.52

This formula can also be used if you know what the direct costs are and are trying to calculate the indirects.
It can also be used if you have the total costs and direct costs, but are trying to figure out what tuition, stipend or equipment costs are. **Subcontracts are not considered in this equation**
Whatever cost you are looking for becomes the "X" in the equation. If you are looking for more than one "X", then this formula will not work – there can only be one unknown.

EXAMPLE DC (direct costs) = X (unknown)

TUITION = 15,000
EQUIPMENT = 23,000
TOTAL COSTS = 250,000

[X-15,000-23,000].52 + X = 250,000
.52X – (38,000)(.52) + X = 250,000
1.52X – 19,760 = 250,000
1.52X = 250,00 +19,760
1.52X = 269,760
X = 269,760/1.52
X = 177,474

DOUBLE CHECK OF CALCULATIONS FOR EXAMPLE

DIRECT COSTS	=	177,474
LESS TUITION		(15,000)
LESS EQUIPMENT		(23,000)
BASE		139,474
TIMES ICR RATE		.52
INDIRECT COSTS		72,526

DIRECT COST	177,474
INDIRECT COST	72,526
TOTAL COST	250,000

IN THIS CASE ----HOW MUCH IS THE TUITION?
GIVEN THE FOLLOWING INFORMATION-

DIRECT COSTS = 188,100
TOTAL COSTS = 274,764
F&A RATE = .52
NO STIPENDS, EQUIPMENT OR SUBCONTACTS IN BUDGET , ONLY TUITION
TUITION = X IN FORMULA

(188,100 minus X) (.52) + 188,100 = 274,764

(188,100)(.52) – (.52)(X) + 188,100 = 274,764

97,812 – .52X+ 188,100 = 274,764

285,912 – .52X = 274,764

–.52X = 274,764 – 285,912

–.52X = – 11,148

X = – 11,148/ – .52

11,148 divided by .52 = 21,438

Tuition = 21,438

DC	188,100
Tution	–21,438
base	166,662 x .52 = 86,664 indirects

EXAMPLE OF NMSS GRANT WITH 10% INDIRECT COST RATE
TOTAL COST = 100,000
QUESTION = HOW MUCH ARE DIRECT COSTS? DIRECT COST = X IN EQUATION

(DIRECT COSTS)(.10) + DIRECT COSTS = 100,000
(X) (.10) + X = 100,000
.10X + 1 X = 100,000
1.10 X = 100,000
X = 100,000 / 1.10
X = 90,909 = DIRECT COSTS

90,909 (.10) = 9,091 = INDIRECT COSTS

IF THERE IS A SUBCONTRACT > 25K INVOLVED, THEN FORMULA LOOKS LIKE THIS

[DIRECT COST – TUITION – STIPEND - EQUIPMENT-SUBCONTRACT + 25,000] (.52) + DIRECT COST = TOTAL COST

(.52)DIRECT COST + DIRECT COST - (.52)[TUITION + STIPEND + EQUIPMENT+SUBCONTRACT - 25,000] =TOTAL COST

(1.52) DIRECT COST - (.52)[TUITION + STIPEND + EQUIPMENT+SUBCONTRACT -25,000] = TOTAL COST

(1.52)DIRECT COST = (TOTAL COST + (.52) [TUITION + STIPEND + EQUIPMENT+SUBCONTRACT – 25,000]

DIRECT COST = [(TOTAL COST + (.52) [TUITION + STIPEND + EQUIPMENT+SUBCONTRACT – 25,000])divided by **1.52**

SAMPLE

LOOKING FOR DIRECT COST = X

TOTAL COST	=	500,000
TUITION, STIPEND	=	0
EQUIPMENT	=	5,000
SUBCONTRACT	=	117,000

(X -5,000 -117,000 0-25000) (.52) + X	=	500.000
(.52)X – (.52)(5,000 +117,000- 25,000) + X	=	500,000
1.52X –(.52)(97,000)	=	500,000
1.52X - 50,440	=	500,000
1.52X	=	500,000 + 50,440
1.52X	=	550,440
X	=	550,440/1.52 = 362,132

DOUBLE CHECK

(362,132 -5,000-117,000 + 25,000) (.52) + 362,132	=	500,000
(265,132) (.52) + 362,132	=	500,000
137,868 + 362,132	=	500,000