

Problems of Angle calculations

1) Calculate these expressions:

a) $5^{\circ} 32' 50'' + 21^{\circ} 57' 2''$

b) $64^{\circ} 29' 47'' + 24^{\circ} 43' 47''$

c) $47^{\circ} 53' 16'' + 82^{\circ} 39' 54''$

d) $68^{\circ} 33' 56'' + 3^{\circ} 27' 30''$

e) $34^{\circ} 45' 7'' + 4^{\circ} 38' 43''$

f) $36^{\circ} 6' 28'' + 53^{\circ} 22' 10''$

2) Calculate these expressions:

a) $87^{\circ} 30' 53'' - (72^{\circ} 14' 29'')$

b) $121^{\circ} 57' 33'' - (42^{\circ} 5' 16'')$

c) $45^{\circ} 31' 54'' - (7^{\circ} 39' 19'')$

d) $119^{\circ} 8' 25'' - (55^{\circ} 30' 27'')$

e) $113^{\circ} 22' 25'' - (41^{\circ} 38' 27'')$

f) $21^{\circ} 16' 30'' - (15^{\circ} 53' 7'')$

3) Calculate the following expressions:

a) $3 \times (5^{\circ} 12' 45'')$

b) $4 \times (38^{\circ} 27' 50'')$

c) $3 \times (73^{\circ} 14' 12'')$

d) $4 \times (35^{\circ} 27' 54'')$

e) $2 \times (12^{\circ} 13' 9'')$

f) $5 \times (42^{\circ} 44' 57'')$

4) Calculate the following expressions:

a) $(131^{\circ} 5' 30'') : 5$

b) $(387^{\circ} 37' 30'') : 5$

c) $(156^{\circ} 55' 48'') : 4$

d) $(152^{\circ} 36' 12'') : 2$

e) $(177^{\circ} 13' 16'') : 4$

f) $(252^{\circ} 15' 56'') : 4$

5) Calculate the complementary and supplementary angle of the following angles:

a) $77^{\circ} 42' 54''$

b) $64^{\circ} 54' 59''$

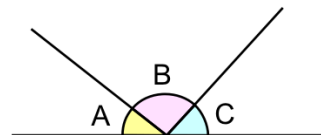
c) $6^{\circ} 49' 39''$

d) $10^{\circ} 5' 51''$

e) $73^{\circ} 31' 16''$

f) $72^{\circ} 15' 49''$

6) Find out the value of A angle if B is $78^{\circ} 3' 58''$ and C is $50^{\circ} 15' 14''$.



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Answers:

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|----|---|---|---|
| 1) | a) $27^{\circ} 29' 52''$ | b) $89^{\circ} 13' 34''$ | c) $130^{\circ} 33' 10''$ |
| | d) $72^{\circ} 1' 26''$ | e) $39^{\circ} 23' 50''$ | f) $89^{\circ} 28' 38''$ |
| 2) | a) $15^{\circ} 16' 24''$ | b) $79^{\circ} 52' 17''$ | c) $37^{\circ} 52' 35''$ |
| | d) $63^{\circ} 37' 58''$ | e) $71^{\circ} 43' 58''$ | f) $5^{\circ} 23' 23''$ |
| 3) | a) $15^{\circ} 38' 15''$ | b) $153^{\circ} 51' 20''$ | c) $219^{\circ} 42' 36''$ |
| | d) $141^{\circ} 51' 36''$ | e) $24^{\circ} 26' 18''$ | f) $213^{\circ} 44' 45''$ |
| 4) | a) $26^{\circ} 13' 6''$ | b) $77^{\circ} 31' 30''$ | c) $39^{\circ} 13' 57''$ |
| | d) $76^{\circ} 18' 6''$ | e) $44^{\circ} 18' 19''$ | f) $63^{\circ} 3' 59''$ |
| 5) | a) $12^{\circ} 17' 6''$, $102^{\circ} 17' 6''$ | b) $25^{\circ} 5' 1''$, $115^{\circ} 5' 1''$ | c) $83^{\circ} 10' 21''$, $173^{\circ} 10' 21''$ |
| | d) $79^{\circ} 54' 9''$, $169^{\circ} 54' 9''$ | e) $16^{\circ} 28' 44''$, $106^{\circ} 28' 44''$ | f) $17^{\circ} 44' 11''$, $107^{\circ} 44' 11''$ |
| 6) | $51^{\circ} 40' 48''$ | | |