14:08 | Problems with More than One Triangle

Name: _____   Class: _____

## Examples

1
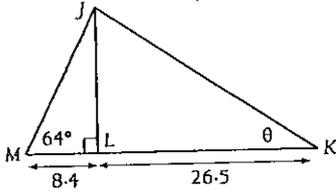
a Use △JLM to find JL.
b Use △JKL to find θ.

Solution

a $\tan 64° = \dfrac{JL}{8\cdot4}$

$JL = 8\cdot4 \times \tan 64°$

$\doteqdot 17\cdot2$

b $\tan θ = \dfrac{17\cdot2}{26\cdot5}$

$θ = \tan^{-1}\left(\dfrac{17\cdot2}{26\cdot5}\right)$

$\doteqdot 33°$

2
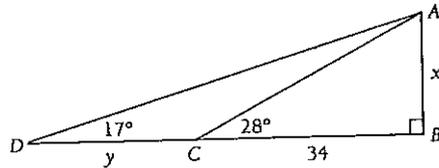
a Find x in △ABC.
b Find DB in △ABD.
c Find y, noting that $DB = y + 34$.

Solution

a $\tan 28° = \dfrac{x}{34}$

$x = 34 \times \tan 28°$

$\doteqdot 18$

b $\tan 17° = \dfrac{x}{DB} = \dfrac{18}{DB}$

$DB = 18 \div \tan 17°$

$\doteqdot 59$

c $y + 34 = DB \doteqdot 59$

$y = 25$

Exercise

1 a Find BD in △ABD.
    b Find DC in △BCD.
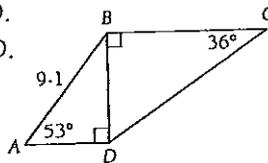
2 a Find DC in △BCD.
    b Find AD in △ABD.
    c Find AC.
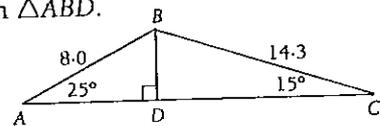
3 a Using △WXY, find WY.
    b Using △WYZ, find θ.
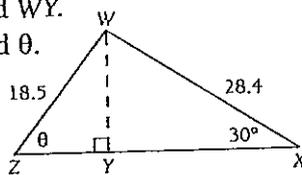
4 a Use △ACD to find x.
    b Use △ABC to find y.
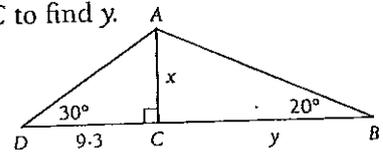
5 a Find x.
    b Find y.
    c Find a using the fact that $a = y - x$.
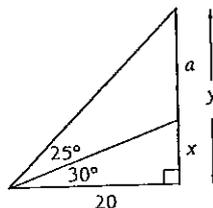
6 a Use △HIK to find ∠HKI.
    b Use △IJK to find ∠IKJ.
    c Find ∠HKJ.
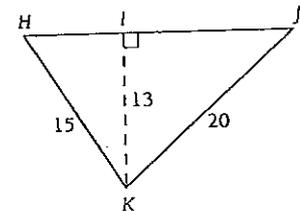
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1 a 7.3   b 12.4

2 a 13.8   b 7.3   c 21.1

3 a 14.2   b 50°

4 a 5.4   b 14.8

5 a 11.5 ... .b 28.6   c 17.1

6 a 30°   b 49°   c 79°