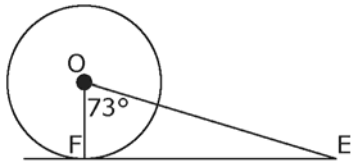
Name: _____ Date: _____

BLM 10–8

Section 10.3 Extra Practice

1. EF is tangent to the circle at F.
radius = OF
What is the measure of ∠OEF?

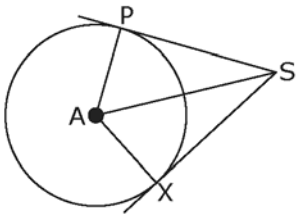


EF is tangent to the circle at F, so ∠OFE is _____°.

∠OFE + ∠EOF + ∠OEF = _____°.

Find the measure of ∠OEF.

2. SP is tangent to the circle at P.
SX is tangent to the circle at X.
SP = 6 cm
SA = 10 cm
A is the centre of the circle.



a) Label all measurements on the diagram.

b) What is the length of AP?

SP is tangent to the circle at P, so ∠SPA is _____°.

ΔSPA is a _____ triangle, so use the _____ relationship to find the length of AP.

Formula →

Substitute →

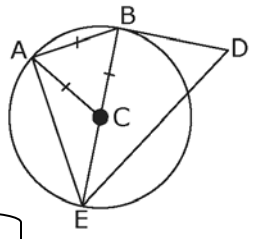
Solve →

ISBN: 978–0–07–000219–7

Name: _____ Date: _____

BLM 10–8
(continued)

3. On the map, DB is tangent to the circle at B.
BE is the diameter.
DB = 5 km
radius = 6 km
△ABC is an equilateral triangle.

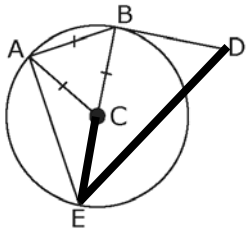


a) What is the length of BE?

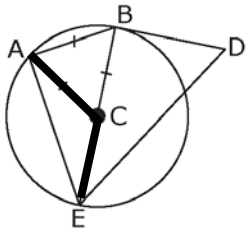
Label the diagram.

b) Jorge starts at point D, cycles to E, and then to C.
Sarah starts at point A, cycles to C, and then to E.
Who travels the shorter distance? By how much? Show your work.

Jorge



Sarah



Jorge

DB is tangent to the circle at B, so ∠BDE = _____°.
Use △DBE to find the length of DE.

Formula →

Substitute →

Solve →

CE is the radius.

CE + DE is the distance that Jorge travels.

Jorge travels _____ km.

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Name: _____ Date: _____

BLM 10–8
(continued)

Sarah

CE =_____

AC = _____

Sarah travels _____ km.

Difference:

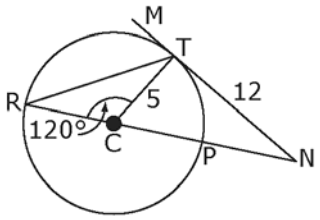
_____ travels _____ km less than _____.

ISBN: 978–0–07–000219–7

Name: _____ Date: _____

BLM 10–8
(continued)

4. MN is tangent to the circle at T.
radius = 5 cm
TN = 12 cm
∠RCT = 120°



a) What type of triangle is △RCT?

CT and CR are radii of the circle. Both are _____ cm.

△RCT is a _____ triangle because two sides are

_____.

b) What is the length of CN? Show your calculations.

MN is tangent to the circle at T, so ∠NTC is _____ °.

ΔNTC is a _____ triangle, so use the

_____ relationship to find the length of CN.

Formula →

Substitute →

Solve →

CN = _____ cm

c) What is the length of PN?

CP is the radius.

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