Math Review (Chapters 6.2–8.5)

Name: _____ Date: _____

Instructions: Show all working clearly. Give answers in correct units where applicable. Construction questions must be done neatly using a ruler and compass.

1. Wages (Ch 6.2, p.144)

Richard works 5 days a week and 8 hours a day. His daily wage is $184.

(a) Find his hourly wage rate.

(b) Find his weekly wage rate.

2. Speed Conversion (Ch 6.3, p.149)

Convert the following speeds to km/hr and mph. (Take 1 km = 0.62 mi.)

(a) 2 mi/s

(b) 5 mi/s

(c) 13 mi/s

(d) 20 mi/s

3. Percentages (Ch 7.1, p.160)

Express each of the following as percentages.

(a) $\frac{1}{4}$

(b) $\frac{5}{6}$

(c) $2\frac{3}{40}$

4. Finding the Original Quantity **(Ch 7.2, p.163)**

Find the unknown quantity in each case.

(a) 30% of a is 18.

(b) 37.5% of b is \$108.

5. Percentage Increase **(Ch 7.3, p.168)**

The price of a printer increased by 8% to \$777.60. Find the original price of the printer.

6. Discount **(Ch 7.4, p.174)**

A rice cooker is sold at a discount of 15%. If the discount is \$24, find:

(a) its marked price,

(b) its selling price.

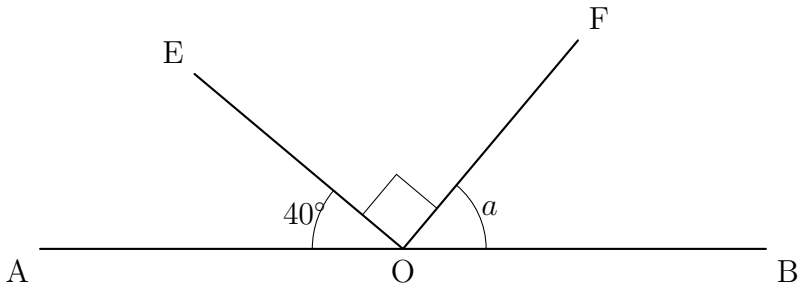
7. Lines and Angles **(Ch 8.2, p.191)**

(a) Which of the following pairs of angles are **complementary**?

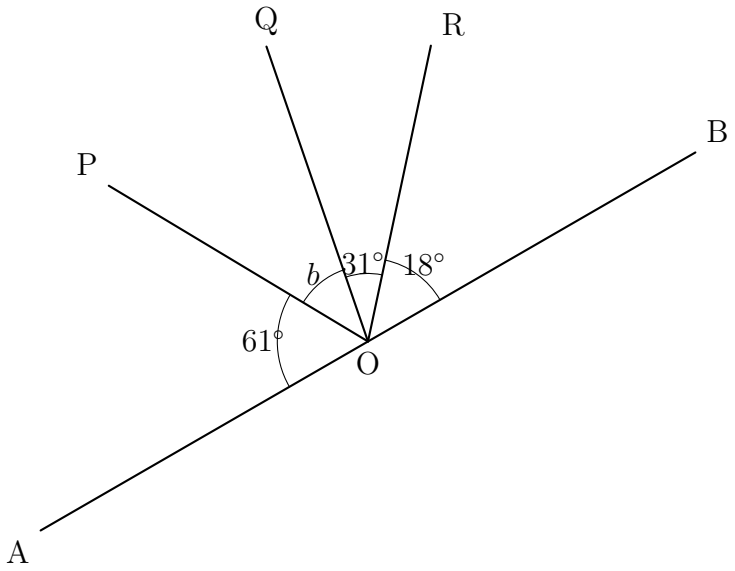
- 31° and 71°
- 25° and 65°

(b) In each diagram, AOB is a straight line. Find the measure of each unknown marked angle.

- Diagram A



- Diagram B



8. Construction **(Ch 8.3, p.198)**

Draw a line segment $AB = 4$ cm. Construct the **perpendicular bisector** of AB using a ruler and a compass.

9. Triangles **(Ch 8.4, p.205)**

Determine whether the measurements given are sufficient to form a **unique triangle**. If so, sketch the triangle and classify it by its sides.

(a) $\triangle ABC$ with $AB = 5$ cm, $BC = 3$ cm, $AC = 5$ cm

(b) $\triangle DEF$ with $DE = 4$ cm, $EF = 4$ cm, $DF = 4$ cm

(c) $\triangle GHK$ with $GH = 6$ cm, $\angle GHK = 37°$, $GK = 4.5$ cm

10. Rectangle Construction **(Ch 8.5, p.212)**

Construct a rectangle $ABCD$ with sides 5 cm and 3 cm. Measure the length of the diagonal and give your answer correct to the nearest 0.1 cm.