

SHOW ALL WORK!!

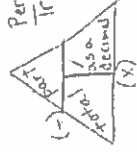
1. Write each percent as a decimal and as a fraction, in simplest form.

a) 71% b) 9% c) 25% d) 110% e) 0.3%

$= 0.71$ or $\frac{71}{100}$ $= 0.09$ or $\frac{9}{100}$ $= 0.25$ or $\frac{25}{100} = \frac{1}{4}$ $= 1.10$ or $\frac{110}{100}$ $= 0.003$ or $\frac{3}{1000}$

2. Write each fraction as a percent.

a) $\frac{4}{5} = 80\%$ b) $\frac{9}{15} = 60\%$ c) $\frac{9756}{15125} = 65\%$



3. Of the 10 Canadian provinces, Alberta, Saskatchewan, Manitoba and Ontario are the only ones that do not have any coastline.

- a) What percent of the provinces do not have coastline? $\frac{4}{10} = 40\%$ do not have a coastline
- b) What percent of the provinces have a coastline? $\frac{6}{10} \therefore 60\%$ do have a coastline

4. Calculate. Round to one decimal, if needed.

a) 20% of 160 b) 25% of 340 c) 0.5% of 720 d) 115% of 333

$0.20 \times 160 = 32$ $0.25 \times 340 = 85$ $0.005 \times 720 = 3.6$ $1.15 \times 333 = 383$

5. Calculate. Round to one decimal, if needed.

a) 56 is 40% of what number? b) 130 is 85% of what number?

$56 \div 0.40 = 140$ $130 \div 0.85 = 152.9$

6. A pair of roller blades cost \$159.98.

a) Calculate the HST (13%) $159.98 \times 0.13 = 20.80$



b) Calculate the total cost of the roller blades, including the tax.

$159.98 + 20.80 = 180.78$

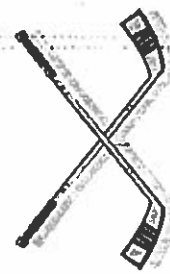
7. Write each ratio in lowest terms. a) 4 games to 10 games b) \$100 to \$50

$2:5$ $2:1$

8. In the 2002 Winter Games, the Canadian Women's hockey team scored 3 goals while the American team scored 2 goals. If the American team scored 6 goals, how many goals would the Canadian team have scored?

$\frac{3}{2} = \frac{x}{6}$

$3 \times 3 = 9$ goals would have been scored.



9. Solve for the unknown. Round to 1 decimal, if needed.

a) $\frac{x}{28} = \frac{2}{7}$

b) $\frac{18}{24} = \frac{11}{m}$

$7x = 56$

$18m = 264$

$x = 8$

$m = 14.7$

10. A recipe calls for flour and sugar to be mixed in the ratio of 2:1. If there are 6.5 cups of sugar used, how many cups of flour are needed? (Full solution needed.)

$\frac{2F}{1S} = \frac{x}{6.5}$

$2 \times 6.5 = 1 \times x$

$13 = x$

$\therefore 13$ cups flour are needed.

11. Shawna and Kevin invest money in the ratio of 3:4. If they have \$105 000 in the account, how much did each person invest? (Full solution needed.)



total: $3+4 = 7$ shares $105000 \div 7 = 15000$ for

\therefore Shawna gets $3(15000) = 45000$ 1 share

Kevin gets $4(15000) = 60000$

12. What is each hourly rate?
DON'T FORGET THE UNITS!!!

a) \$35 earned in 7 hours
\$5/hour

b) \$236.25 earned in 35 hours
\$ 78.75/hr.

13. Find each unit rate. Round answers to 2 decimal places, as needed. DON'T FORGET THE UNITS!!

a) \$5.99 for 18 granola bars
\$0.33/bar

b) \$45 for 17 packages

\$ 2.65/package

c) 150 km in 2 hours

d) 220 beats in 3 minutes

75 km/hour

73.33 beats/min.



14. Which is faster? 320 km in 4 hours or 390 km in 5 hours? Show all work.

$$320 \div 4 = 80 \text{ km/hr}$$

$$390 \div 5 = 78 \text{ km/hr}$$

\therefore 320 km in 4 hours is faster.

15. Find the measure of each unknown. Be sure to STATE ALL REASONS!

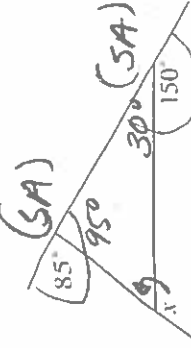
a)



$$x = 92 + 43 \text{ (EAT)}$$

$$= 135^\circ$$

b)



$$x = 180 - 95 - 30$$

$$= 55^\circ \text{ (ASTT)}$$

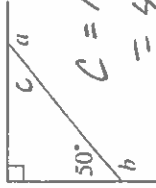
c)



$$x = 180 - 145 \text{ (SA)}$$

$$= 35^\circ$$

c)



$$c = 180 - 50 - 90$$

$$= 40^\circ \text{ (AST)}$$

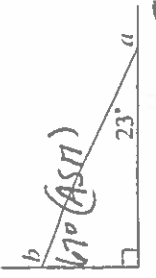
$$a = 180 - 40^\circ$$

$$= 140^\circ \text{ (SA)}$$

$$b = 180 - 50$$

$$= 130^\circ \text{ (SA)}$$

d)



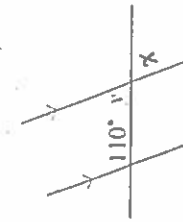
$$a = 180 - 23$$

$$= 157^\circ \text{ (SA)}$$

$$b = 180 - 67$$

$$= 113^\circ \text{ (SA)}$$

f)

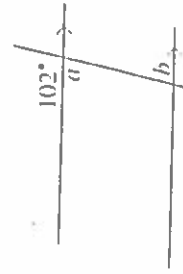


$$y = 180 - 110$$

$$= 70^\circ \text{ (C pattern)}$$

$$x = 70^\circ \text{ (OAT)}$$

g)

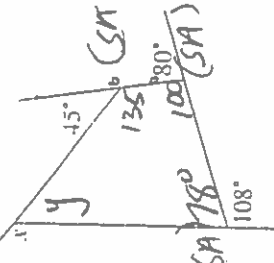


$$a = 180 - 102$$

$$= 78^\circ \text{ (SA)}$$

$$b = 78^\circ \text{ (Z pattern)}$$

e)



$$y = 360 - 135 - 100$$

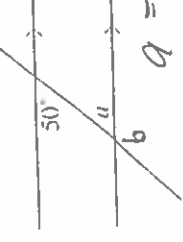
$$= 78$$

$$= 47^\circ \text{ (POT)}$$

$$x = 180 - 47$$

$$= 133^\circ \text{ (SA)}$$

h)

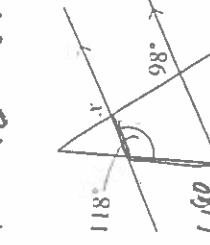


$$a = 50^\circ \text{ (Z pattern)}$$

$$b = 180 - 50$$

$$= 130^\circ \text{ (SA)}$$

i)

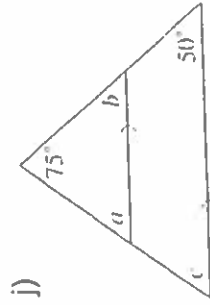


$$y = 180 - 110$$

$$= 70^\circ \text{ (C pattern)}$$

$$x = 70^\circ \text{ (OAT)}$$

j)

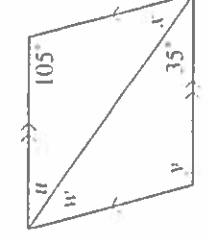


$$b = 50^\circ \text{ (F pattern)}$$

$$a = 55^\circ \text{ (ASTT)}$$

$$c = 55^\circ \text{ (F pattern)}$$

k)



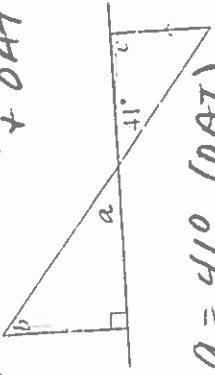
$$u = 35^\circ \text{ (Z pattern)}$$

$$x = 40^\circ \text{ (ASTT)}$$

$$w = 40^\circ \text{ (Z pattern)}$$

$$y = 105^\circ \text{ (ASTT)}$$

l)



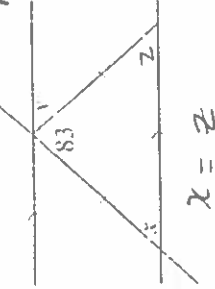
$$a = 41^\circ \text{ (OAT)}$$

$$b = 180 - 90 - 41$$

$$= 49^\circ \text{ (ASTT)}$$

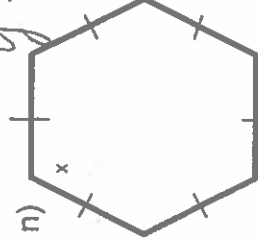
$$c = 90^\circ \text{ (Z pattern)}$$

m)



$$\therefore x = \frac{180 - 83}{2}$$

$$= 48.5^\circ$$



total degrees will be $(n-2)180$

$$\therefore 6 \text{ sides } \therefore (6-2)180 = 720^\circ$$

$$x = 720 \div 6 = 120^\circ \text{ (POL)}$$

$$c = 90^\circ \text{ (Z pattern)}$$