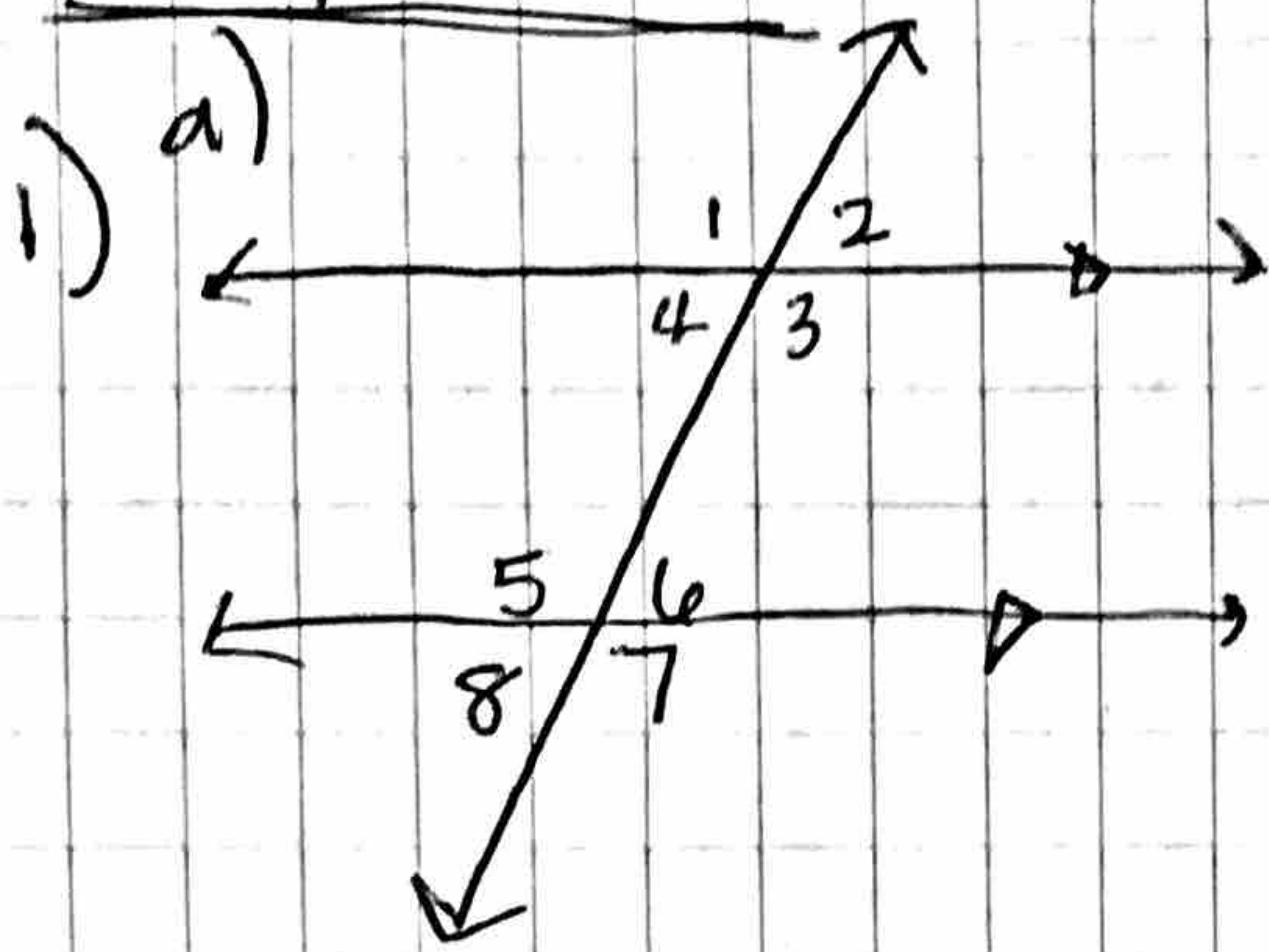


Chapter 1

Per 1



corresponding \angle s:

$$\angle 1 \hat{=} \angle 5, \angle 4 \hat{=} \angle 8,$$

$$\angle 2 \hat{=} \angle 6, \angle 3 \hat{=} \angle 7$$

alt. int \angle s:

$$\angle 4 \hat{=} \angle 6$$

$$\angle 3 \hat{=} \angle 5$$

same-side int \angle s:

$$\angle 3 \hat{=} \angle 6$$

$$\angle 4 \hat{=} \angle 5$$

b) If $m\angle 4 = x - 1$ and $m\angle 5 = 3x + 7$, find x .

$$m\angle 4 + m\angle 5 = 180$$

$$x - 1 + 3x + 7 = 180$$

$$4x + 6 = 180$$

$$4x + 6 = 180$$

$$\frac{4x}{4} = \frac{174}{4}$$

$$x =$$

c) If $m\angle 2 = 70^\circ$ and $m\angle 6 = 2x - 5$, find x .

$$m\angle 2 = m\angle 6$$

$$70 = 2x - 5$$

$$75 = 2x$$

$$\frac{75}{2} = \frac{2x}{2} \quad x =$$

2) a) How long can 3rd side of \triangle be?

i) 14cm, 11cm, xcm

$$\begin{array}{r} -14 \\ -11 \\ \hline 3 \text{cm} < x < 25 \text{cm} \end{array}$$

ii) 5cm, 5cm, xcm

$$\begin{array}{r} -5 \\ -5 \\ \hline 0 \text{cm} < x < 10 \text{cm} \end{array}$$

b) Can each form a \triangle ?

i) 7, 15, 29

no $8 < x < 22$

29 is not b/w 8 & 22

ii) 14, 17, 11

yes

iii) 9, 9, 18

no

3)

$$\frac{x+4}{x-2} = \frac{11}{17}$$

$$17(x+4) = 11(x-2)$$

$$17x + 68 = 11x - 22$$

$$\frac{6x}{6} = \frac{-90}{6}$$

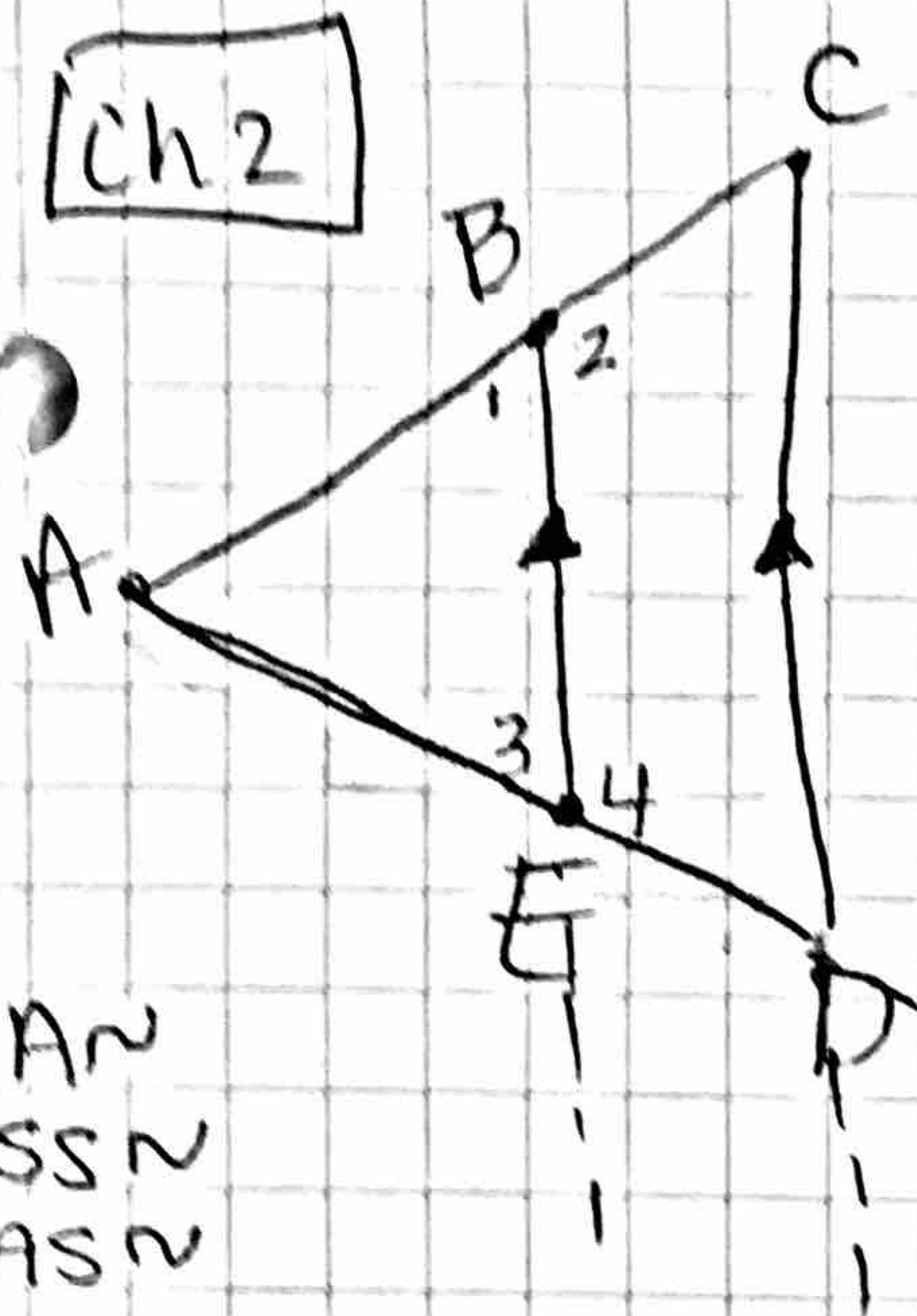
$$\boxed{x = -15}$$

Find x . ✓ answer

check: $\frac{-15+4}{-15-2} \Rightarrow \frac{-11}{-17} \Rightarrow \frac{11}{17}$ ✓

$$\frac{11}{17} = \frac{11}{17}$$

CH 2



AA~
SSS~
SAS~

Per 1
is $\triangle ABE \sim \triangle ACD$?

reflexive

$\angle A \cong \angle A$

given

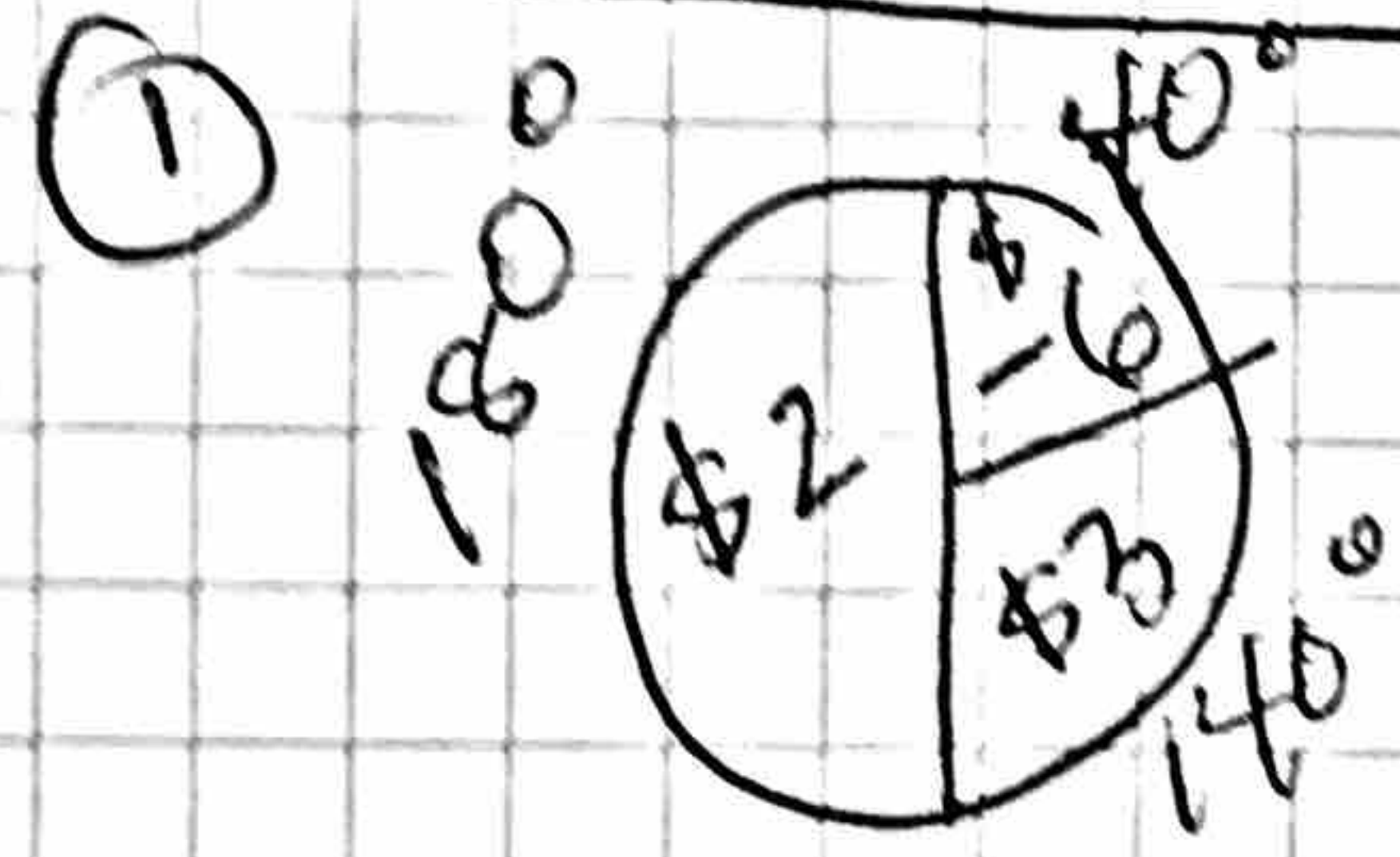
$\overline{BE} \parallel \overline{CD}$

if $\angle \neq 3$ then
corresp \angle s

$\angle 3 \cong \angle 4$

$\triangle ABE \sim \triangle ACD$
AA~

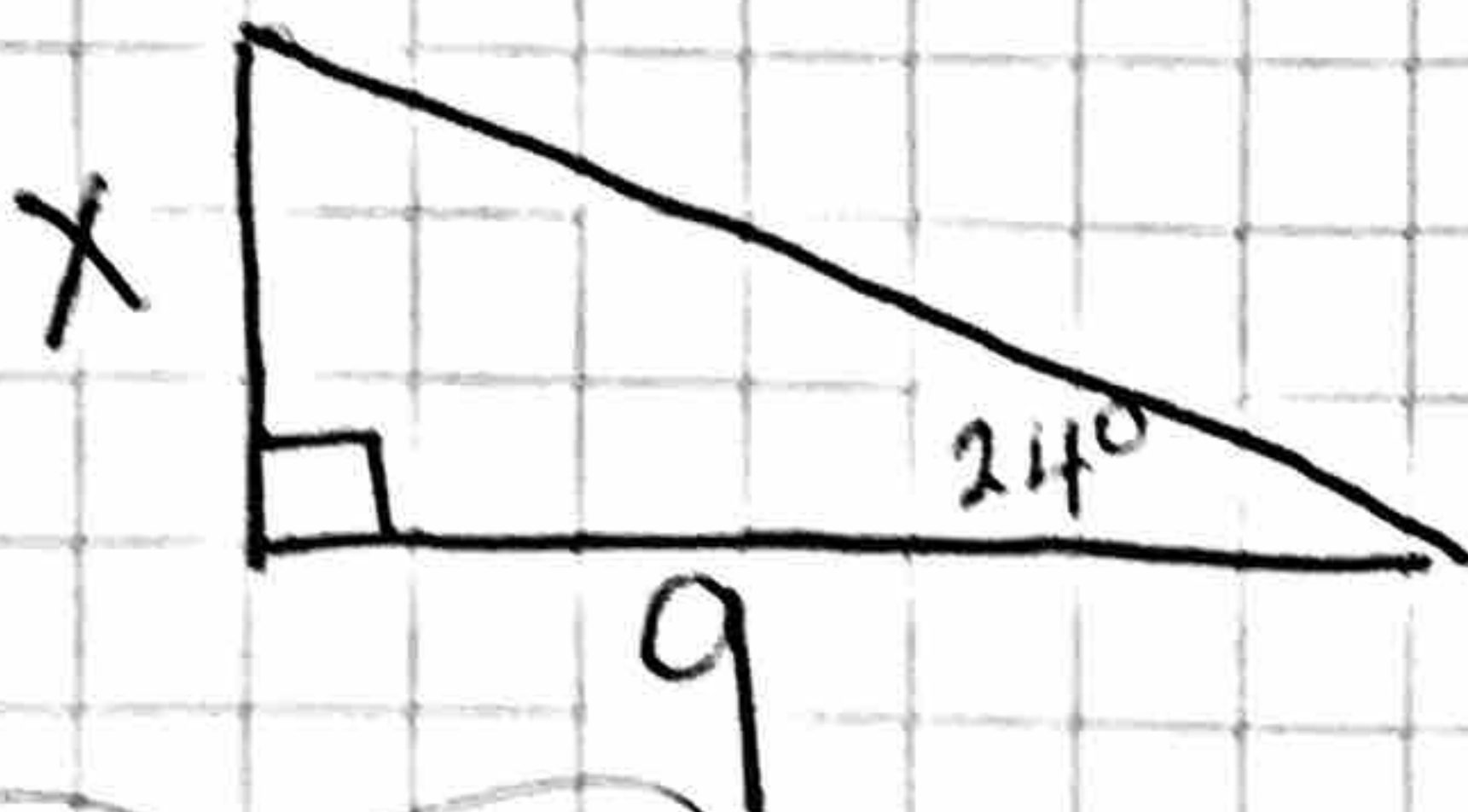
ch. 3.



can you find the expected value for this spinner?

$$\begin{aligned} E.V. &= \frac{1}{2}(\$2) + \frac{40}{360}(-\$6) + \frac{140}{360}(\$3) \\ &= \frac{1}{2}(2) + \left(\frac{1}{9}\right)(-6) + \frac{7}{18}(3) \\ &= 1 - .67 + 1.17 = \boxed{\$1.50} \end{aligned}$$

2



$$9 \cdot \tan 24 = \frac{x}{9} \cdot 9$$

$$\begin{aligned} 9(\tan 24) &= x \\ 9(.4452) &= x \end{aligned}$$

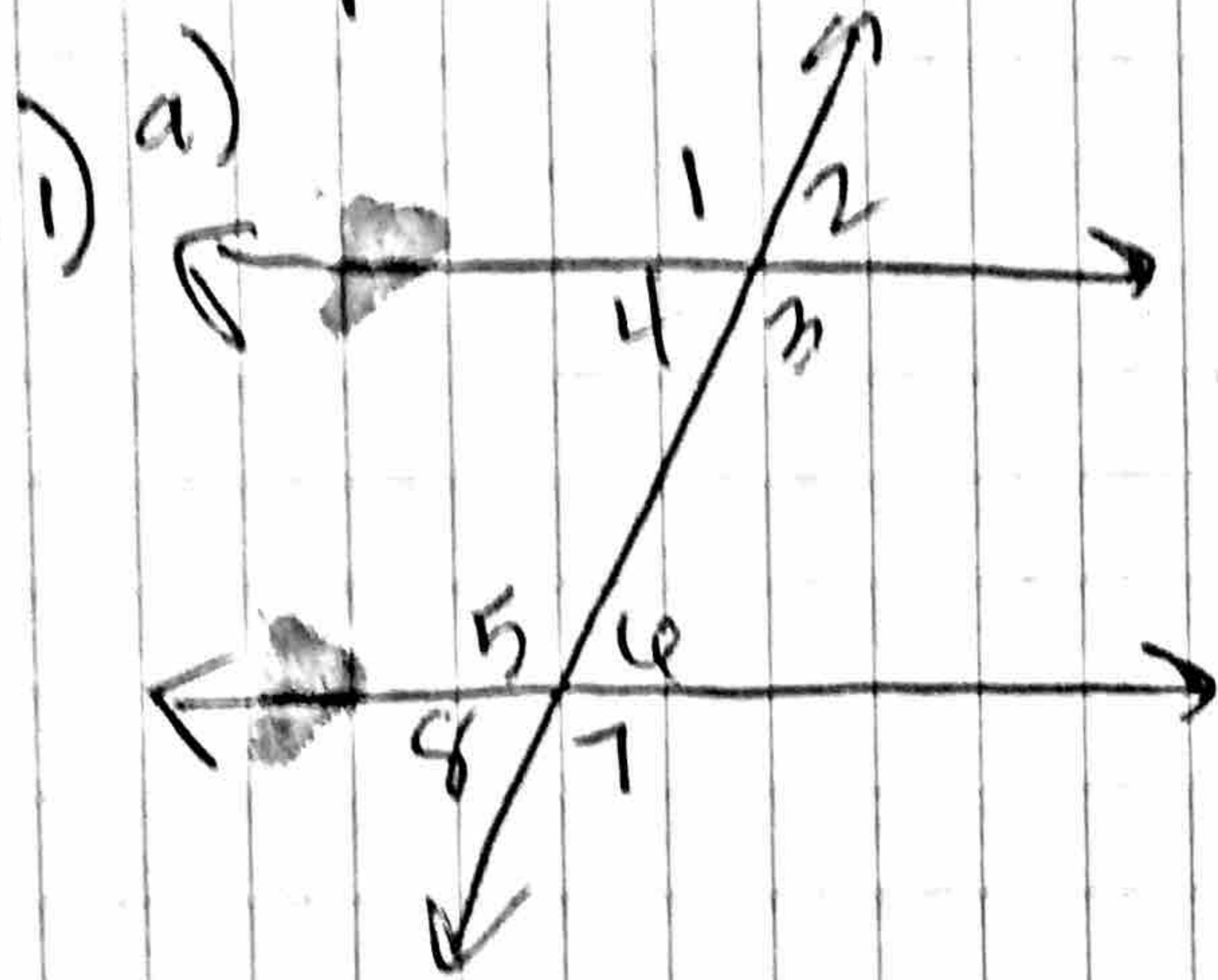
$\boxed{4.01 \approx x}$

$\frac{op}{ad} \tan 24 = \frac{x}{9}$
 $\frac{.4452}{1} = \frac{x}{9}$

then cross multiply.

chapter 1

Per 2



corresponding \angle s:
 $\angle 1 \cong \angle 5, \angle 2 \cong \angle 6, \angle 3 \cong \angle 7, \angle 4 \cong \angle 8$
 alt. int \angle s:
 $\angle 4 \cong \angle 6, \angle 3 \cong \angle 5$
 same-side int \angle s:
 $\angle 4 \cong \angle 5, \angle 3 \cong \angle 6$

b) If $m\angle 1 = 14x + 9$ and $m\angle 5 = 110$, find x .

$$m\angle 1 = m\angle 5 \quad 14x + 9 = 110 \quad \frac{14x = 101}{14} \quad \boxed{x \approx 11.22}$$

c) If $m\angle 3 = 4x - 2$ and $m\angle 6 = x + 5$, find x .

$$m\angle 3 + m\angle 6 = 180 \quad 5x + 3 = 180 \quad \frac{5x = 177}{5} \quad \boxed{x \approx 35.4}$$

$$4x - 2 + x + 5 = 180$$

2) a) How long can 3rd side of Δ be?

1) $17\text{ft}, 2\text{ft}, x\text{ft}$

$$\begin{array}{r} 17 \\ -2 \\ \hline 15 \end{array} \quad \begin{array}{r} 17 \\ +2 \\ \hline 19 \end{array}$$

$\boxed{15\text{ft} < x < 19\text{ft}}$

2) $7\text{cm}, 7\text{cm}, x\text{cm}$

$$\begin{array}{r} 7 \\ -7 \\ \hline 0 \end{array} \quad \begin{array}{r} 7 \\ +7 \\ \hline 14 \end{array}$$

$\boxed{0\text{cm} < x < 14\text{cm}}$

b) Can each form a Δ ?

1) $19, 32, 45$

$13 < x < 51$

yes b/c
45 is
b/w 13
and 51.

2) $18, 7, 12$

$11 < x < 25$

yes! b/c 12
is b/w 11 & 25

3) $42, 42, 84$

$0 < x < 84$

No b/c 84 is
not b/w 0 and 84

3) $\frac{x+9}{x-1} = \frac{11}{17}$

Find x . \checkmark answer.

$$17(x+9) = 11(x-1)$$

$$17x + 153 = 11x - 11$$

$$\frac{6x = -164}{6}$$

$$\boxed{x \approx -27.3}$$

$$\frac{-27.3 + 9}{-27.3 - 1} \Rightarrow \frac{-18.3}{-28.3} \approx .6466$$

$$\frac{11}{17} \approx .647$$

Chapter 2



Per 2
IS $\triangle T H E \sim \triangle B U S$?

$$\frac{TH}{BU} = \frac{3}{2}$$

$$\frac{TH}{BU} = \frac{6}{4} = \frac{3}{2}$$

corresp. ratios sides

$\angle H \cong \angle U$ are right \angle s
given

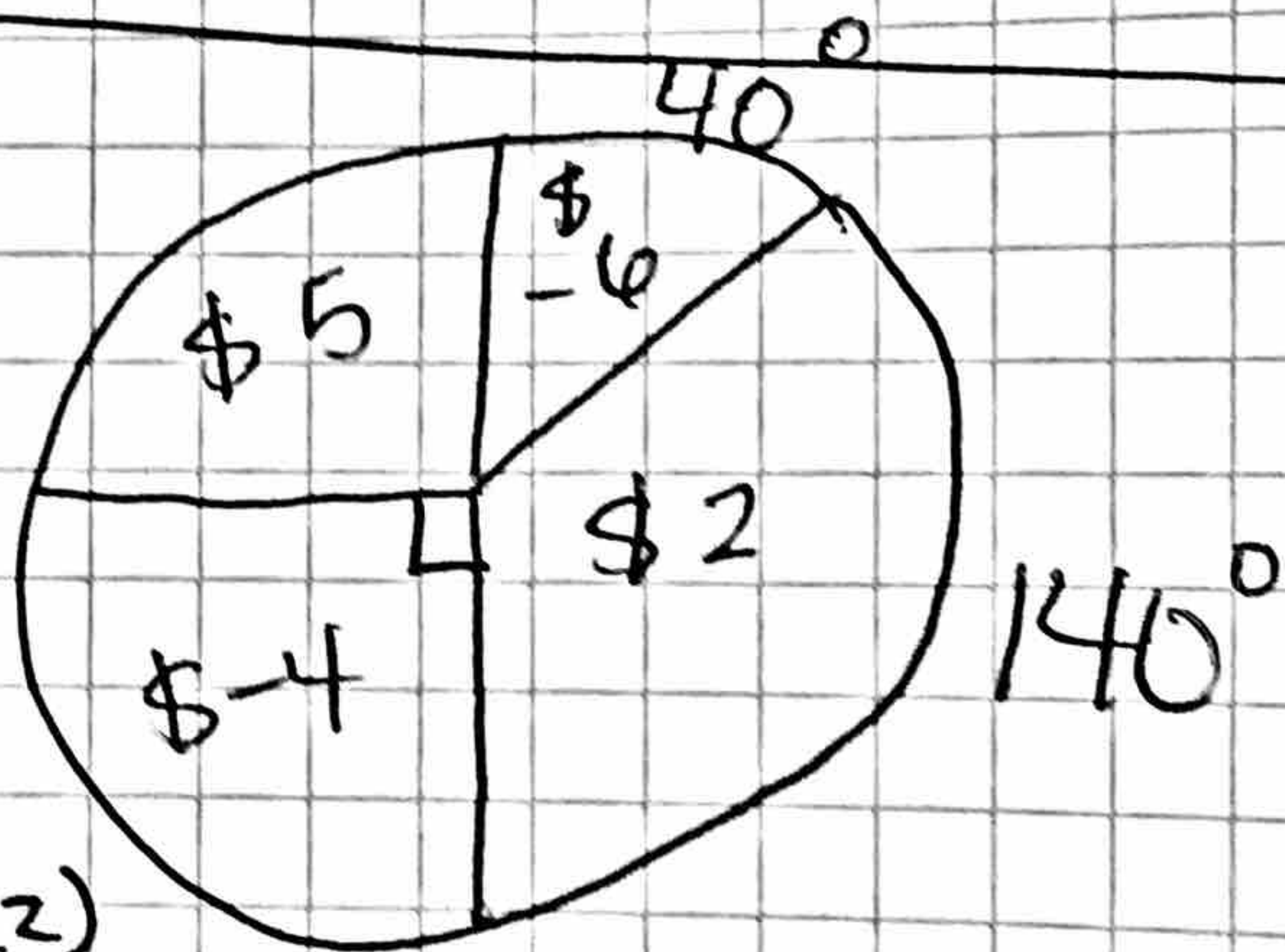
$\angle H \cong \angle U$
right \angle s are \cong

AA \sim
SSS \sim
SAS \sim

$\triangle T H E \sim \triangle B U S$
SAS \sim

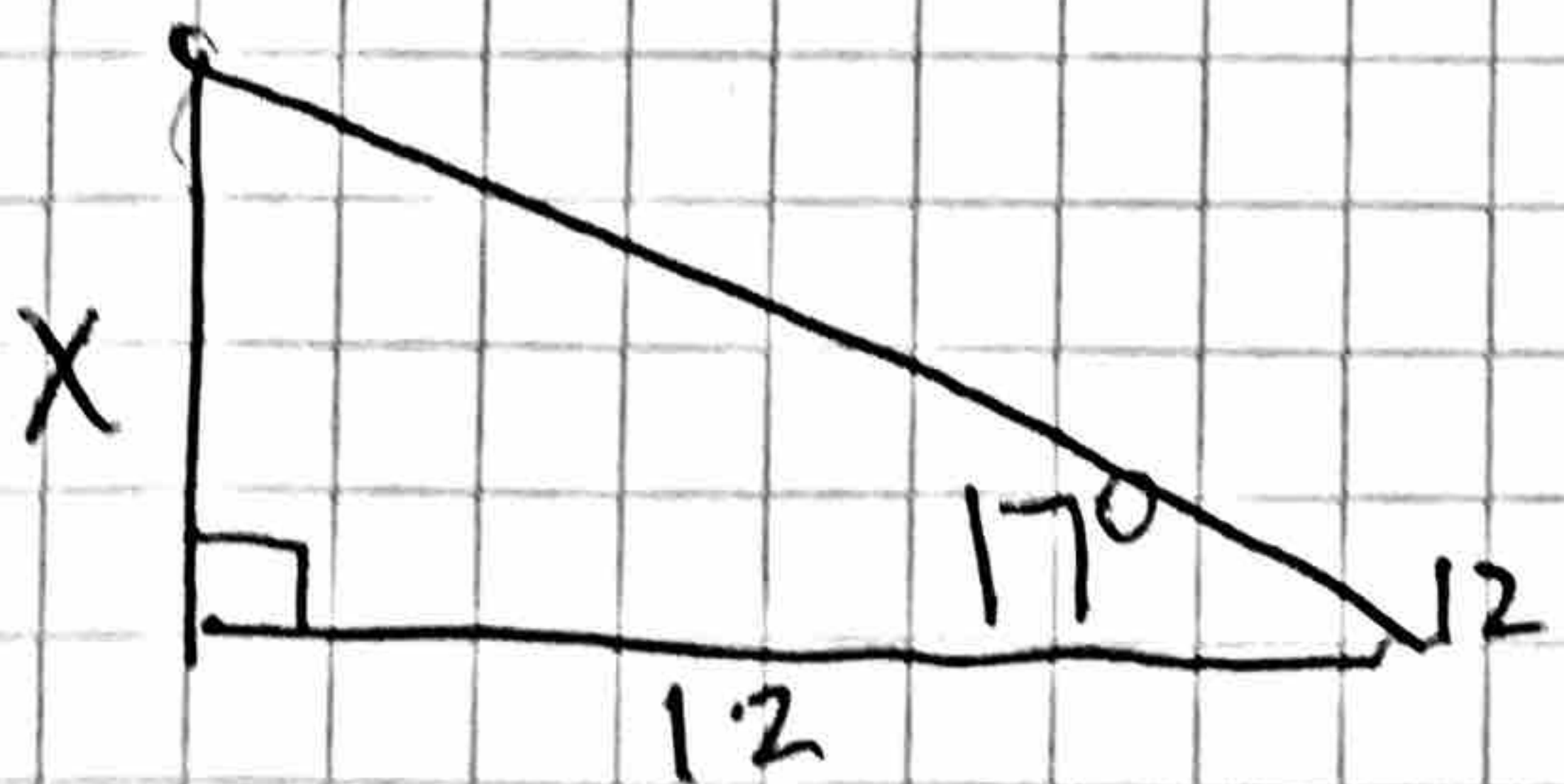
Chapter 3

Find the expected value
1) for the spinner.



$$\begin{aligned} EV &= \frac{1}{4}(5) + \frac{1}{4}(-4) + \frac{40}{360}(-6) + \frac{140}{360}(2) \\ &= .25(5) + .25(-4) + .54(-6) + .39(2) \\ &= 1.25 + (-1) + -3.24 + .78 \\ &= \boxed{-2.21} \end{aligned}$$

2)



Solve for x.

$$\tan 17 = \frac{x}{12}$$

$$.3057 = \frac{x}{12} \cdot 12$$

$$\boxed{3.67 \approx x}$$