

$$\theta + 40^\circ = 180^\circ$$

$$\theta = 140^\circ$$

$$S = 180^\circ(n - 2)$$

$$S = n\theta$$

$$S = S$$

$$180^\circ(n - 2) = n\theta$$

$$180^\circ n - 360^\circ = n\theta$$

$$180^\circ n - n\theta = 360^\circ$$

$$n(180^\circ - \theta) = 360^\circ$$

$$n = \frac{360^\circ}{180^\circ - \theta}$$

Let the smallest angle be  $2k$ . This means that the other angles will be  $3k$ ,  $4k$ ,  $4k$  and  $5k$  respectively.

Let  $S$  be the sum of the interior angles in the pentagon.

$$S = S$$

$$2k + 3k + 4k + 4k + 5k = 180^\circ(5 - 2)$$

$$18k = 540^\circ$$

$$k = 30^\circ$$

Therefore, since the largest angle is  $5k$ , it is  $5(30^\circ) = 150^\circ$ .

$$\angle XZB + \angle ABZ = 180^\circ \text{ (int. } \angle\text{s, AB//XZ)}$$

$$59^\circ + \angle YBZ + 46^\circ = 180^\circ$$

$$\angle YBZ = \boxed{75^\circ}$$

$$a + 134^\circ = 180^\circ \text{ (int. } \angle\text{s, AB//}\ell\text{)}$$

$$a = 46^\circ \text{ (int. } \angle\text{s, AB//}\ell\text{)}$$

$$b = 59^\circ \text{ (alt. } \angle\text{s, XZ//}\ell\text{)}$$

$$\text{obtuse } \angle CWZ = a + b = 46^\circ + 59^\circ = \boxed{105^\circ}$$

$$30^\circ + 30^\circ + 30^\circ + (360^\circ - x^\circ) = 360^\circ$$

$$x = \boxed{270^\circ}$$

$$\frac{1}{3}ab + \left(\frac{1}{4}ab^2 - \frac{1}{5}ba\right) + \left(\frac{1}{5}ab^2 + ab\right)$$

$$= \frac{1}{3}ab + \frac{1}{4}ab^2 - \frac{1}{5}ba + \frac{1}{5}ab^2 + ab$$

$$= \frac{1}{3}ab - \frac{1}{5}ab + ab + \frac{1}{4}ab^2 + \frac{1}{5}ab^2$$

$$= ab\left(\frac{1}{3} - \frac{1}{5} + 1\right) + ab^2\left(\frac{1}{4} + \frac{1}{5}\right)$$

$$= \frac{17}{15}ab + \frac{9}{20}ab^2$$

$$= ab\left(\frac{17}{15} + \frac{9}{20}b\right)$$

$$\text{Commutative: } A + B = B + A, AB = BA$$

$$a - b \neq b - a, a - b = a + (-b) = (-b) + a$$

$$\frac{a}{b} \neq \frac{b}{a}, a \cdot \frac{1}{b} = \frac{1}{b} \cdot a$$

$$\begin{aligned}
& \left(3a + \frac{1}{4}b\right) + \left(-b + \frac{1}{4}c\right) + \left(-c + \frac{1}{4}a\right) \\
&= 3a + \frac{1}{4}b - b + \frac{1}{4}c - c + \frac{1}{4}a \\
&= 3a + \frac{1}{4}a + \frac{1}{4}b - b + \frac{1}{4}c - c \\
&= \frac{13}{4}a - \frac{3}{4}b - \frac{3}{4}c
\end{aligned}$$

$$\begin{aligned}
& \left(-\frac{1}{3}a + \frac{3}{4}b - \frac{4}{5}\right) - \left(\frac{4}{3}a - \frac{8}{5}b + \frac{2}{5}\right) \\
&= -\frac{1}{3}a + \frac{3}{4}b - \frac{4}{5} - \frac{4}{3}a + \frac{8}{5}b - \frac{2}{5} \\
&= -\frac{1}{3}a - \frac{4}{3}a + \frac{3}{4}b + \frac{8}{5}b - \frac{4}{5} - \frac{2}{5} \\
&= -\frac{5}{3}a + \frac{47}{20}b - \frac{6}{5}
\end{aligned}$$

$$-a - b = -(a + b)$$

$$\begin{aligned}
& \frac{8(3x - 4y)}{5} - \frac{4x - y}{10} + \frac{3(x - 3)}{5} \\
&= \frac{8(3x - 4y)(2)}{10} - \frac{4x - y}{10} + \frac{3(x - 3)(2)}{10} \\
&= \frac{48x - 64y - 4x + y + 6x - 18}{10} \\
&= \frac{48x - 4x + 6x - 64y + y - 18}{10} \\
&= \frac{50x - 63y - 18}{10}
\end{aligned}$$

$$\begin{aligned}
 &x + y + 2z \\
 &(60x + 80y + 450z) \text{ g} \\
 &36 - x - y - 2z
 \end{aligned}$$

perimeter of  $\triangle$  = perimeter of rectangle

$$\begin{aligned}
 3(x + 1) &= 2(x - 1 + y) \\
 3x + 3 &= 2x - 2 + 2y \\
 -2x + 2 &= -2x + 2 \\
 \hline
 x + 5 &= 2y
 \end{aligned}$$

$$y = \boxed{\frac{x + 5}{2}}$$

$$\begin{aligned}
 5p - 7 &= 3p + 1 \\
 2p &= 8 \\
 p &= 4
 \end{aligned}$$

$$DC = 5p - 7 = 5(4) - 7 = 20 - 7 = 13$$

$$\begin{aligned}
 S &= S \\
 156^\circ n &= 180^\circ (n - 2) \\
 156n &= 180n - 360 \\
 24n &= 360 \\
 n &= 15
 \end{aligned}$$

$$-15 + 2(5 - 2x) = 4(2 - 3x) + 19$$

$$-15 + 10 - 4x = 8 - 12x + 19$$

$$-5 - 4x = 27 - 12x$$

$$8x = 32$$

$$x = \boxed{4}$$

$$0.99x + 1.4(22 - x) = 27.52$$

$$0.99x + 30.8 - 1.4x = 27.52$$

$$-0.41x + 30.8 = 27.52 + 0x$$

$$30.8 - 27.52 = 0.41x$$

$$0.41x = 3.28$$

$$x = \boxed{8}$$

$$3 = 28 - \frac{5}{12}x$$

$$36 = 336 - 5x$$

$$5x = 300$$

$$x = \boxed{60}$$

$$2\frac{5}{8}x - 28\frac{3}{8} = 34\frac{5}{8}$$

$$\frac{21}{8}x - \frac{227}{8} = \frac{277}{8}$$

$$21x - 227 = 277$$

$$21x = 504$$

$$x = \boxed{24}$$

$$\frac{3(x-4)}{4} - \frac{x+3}{5} = -\frac{3}{10}$$

$$60x - 80 - 4x - 12 = -6$$

$$56x - 92 = -6$$

$$56x = 84$$

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

$$\begin{aligned}\frac{2}{9(7x-3)} &= \frac{3}{81x-45} \\ \frac{2}{9(7x-3)} &= \frac{3}{9(9x-5)} \\ 1 \div \frac{2}{7x-3} &= 1 \div \frac{3}{9x-5} \\ \frac{7x-3}{2} &= \frac{9x-5}{3} \\ 21x-9 &= 18x-10 \\ 3x &= -1 \\ x &= \boxed{-\frac{1}{3}}\end{aligned}$$

$$\begin{aligned}\frac{2}{9(7x-3)} &= \frac{3}{81x-45} \\ \frac{2}{9(7x-3)} &= \frac{3}{9(9x-5)} \\ 18x-10 &= 21x-9 \\ -1 &= 3x \\ x &= \boxed{-\frac{1}{3}}\end{aligned}$$

$$\sqrt{2x} = \sqrt{x-1}$$