

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

$$\theta = 140^\circ$$

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

$$S = n\theta$$

$$S = S$$

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

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

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

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

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

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 $5(30^\circ) = 150^\circ$.

$$\begin{aligned}\angle XZB + \angle ABZ &= 180^\circ \text{ (int. } \angle\text{s, AB//XZ)} \\ 59^\circ + \angle YBZ + 46^\circ &= 180^\circ\end{aligned}$$

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

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

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

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

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

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

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

$$\begin{aligned}& \frac{1}{3}ab + \left(\frac{1}{4}ab^2 - \frac{1}{5}ba\right) + \left(\frac{1}{5}ab^2 + ab\right) \\&= \frac{1}{3}ab + \frac{1}{4}ab^2 - \frac{1}{5}ba + \frac{1}{5}ab^2 + ab \\&= \frac{1}{3}ab - \frac{1}{5}ab + ab + \frac{1}{4}ab^2 + \frac{1}{5}ab^2 \\&= ab\left(\frac{1}{3} - \frac{1}{5} + 1\right) + ab^2\left(\frac{1}{4} + \frac{1}{5}\right) \\&= \frac{17}{15}ab + \frac{9}{20}ab^2 \\&= ab\left(\frac{17}{15} + \frac{9}{20}b\right)\end{aligned}$$

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

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

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

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

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

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

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

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

perimeter of \triangle = perimeter of rectangle

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

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

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

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

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

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

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

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

$$8x = 32$$

$$x = \boxed{4}$$

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

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

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

$$30.8 - 27.52 = 0.41x$$

$$0.41x = 3.28$$

$$x = \boxed{8}$$

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

$$36 = 336 - 5x$$

$$5x = 300$$

$$x = \boxed{60}$$

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

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

$$21x - 227 = 277$$

$$21x = 504$$

$$x = \boxed{24}$$

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

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

$$56x - 92 = -6$$

$$56x = 84$$

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

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

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

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

$$p = 6 + 4(n - 1) = 2 + 4n$$

$$q = 6 + 2(n - 1) = 2(3 + n - 1) = 2(n + 2)$$

$$\frac{5}{x} = 10$$

$$5 = 10x$$

$$x = \frac{1}{2}$$

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

$$y + 2 = 10$$

$$y = 8$$

Let the radius of the cylinder be r .

$$V_{\text{cylinder}} = 24.75\pi$$

$$\pi r^2(11) = 24.75\pi$$

$$r^2(11) = 24.75$$

$$r^2 = 2.25$$

$$r = 1.5 \text{ cm} \quad \square$$

$$V = V_{\text{prism}} - V_{\text{cylinder}}$$

$$= \frac{1}{2}(10)(12)(11) - 24.75\pi$$

$$\approx 582 \text{ cm}^3$$

$$2 \times 292 \times 110\% \times 107\% \approx \$687.37$$

Option 1:

$$687.37 + 2 \times 2 \times 29.90 \times 110\% \times 107\% \approx \$828.14$$

Option 2:

$$2 \times 342 \times 110\% \times 107\% \times 90\% \approx \$724.56$$

$$\frac{10051}{16.25} = \frac{20100}{333} \text{ km h}^{-1}$$

$$\frac{1431 + 1431 + 10051}{16.25} = \frac{12913}{\frac{65}{4}} = \frac{51612}{65} \text{ km h}^{-1}$$

$$\frac{20100}{333} \text{ km h}^{-1} \leq \text{average speed} \leq \frac{51612}{65} \text{ km h}^{-1}$$