

Part A Sample Questions (no calculator)

<p>1.</p> -6	<p>2.</p> $= 1 - (-1) - 1$ $= 1 + 1 - 1$ $= 1$
<p>3.</p> $= \frac{(-4)^{2+3+4}}{(-4)^6}$ $= \frac{(-4)^9}{(-4)^6} = (-4)^3 = -64$	<p>4.</p> $= \frac{1}{5} + \frac{2}{10} \times \frac{2}{3}$ $= \frac{1}{5} + \frac{4}{30}$ $= \frac{6}{30} + \frac{4}{30} = \frac{10}{30} = \frac{1}{3}$
<p>5.</p> $= \frac{1}{3} \times \frac{2}{3} \div \frac{8}{27}$ $= \frac{2}{9} \div \frac{8}{27}$ $= \frac{2}{9} \times \frac{27}{8} = \frac{3}{4}$	<p>6.</p> $\frac{1}{8} + \frac{1}{4} + \frac{1}{2}$ $= \frac{1}{8} + \frac{2}{8} + \frac{4}{8}$ $= \frac{7}{8}$
<p>7.</p> 7	<p>8.</p> $= 4 \div 0.25$ $= 16$ <p>There are 16 quarters in 4</p>
<p>9.</p> 6 <p>because $\frac{3}{6} = 0.5$</p>	<p>10.</p> $\begin{array}{r} 2.6 + x = 4x + 1.4 \\ -x \quad -x \\ \hline 2.6 \quad = 3x + 1.4 \\ -1.4 \quad -1.4 \\ \hline 1.2 = 3x \\ \frac{1.2}{3} = \frac{3x}{3} \\ 0.4 = x \end{array}$

$$11. \quad \begin{array}{r} -6x + 8 = 2x + 12 \\ +6x \quad \quad +6x \end{array}$$

$$\begin{array}{r} 8 = 8x + 12 \\ -12 \quad \quad -12 \\ \hline -4 = 8x \\ \frac{-4}{8} = \frac{8x}{8} \quad \boxed{-0.5 = x} \end{array}$$

$$12. \quad \begin{array}{r} 8 - 4x = 14x - 28 \\ +4x \quad +4x \end{array}$$

$$\begin{array}{r} 8 = 18x - 28 \\ +28 \quad \quad +28 \\ \hline 36 = 18x \\ \frac{36}{18} = \frac{18x}{18} \quad \boxed{2 = x} \end{array}$$

$$13. \quad \begin{array}{l} -4(7 - 2(-1)) \\ = -4(7 - (-2)) \\ = -4(9) \\ \boxed{= -36} \end{array}$$

$$14. \quad \begin{array}{l} \sqrt{\frac{144}{4}} \\ = \frac{12}{2} \\ \boxed{= 6} \end{array}$$

$$15. \quad \sqrt{\frac{4}{9}} = \frac{2}{3} \quad \frac{-8}{3} = \frac{-16}{10} = -1.6$$

$$16. \quad -\left(-\frac{5}{2}\right) = -\left(2\frac{1}{2}\right) = -2\frac{1}{2}$$

$$\frac{4}{\sqrt{\frac{4}{9}}} \quad \frac{3}{-1.5} \quad \frac{1}{-1.75} \quad \frac{2}{-\frac{8}{5}}$$

$$\frac{2}{-0.75} \quad \frac{4}{-\frac{3}{5}} \quad \frac{3}{-0.6} \quad \frac{1}{-\left(-\frac{5}{2}\right)}$$

$$17. \quad \begin{array}{l} 0.4 \div 2 + \sqrt{\frac{9}{36}} \times 1\frac{1}{5} \\ \downarrow \\ = 0.2 + \frac{3}{4} \times \frac{6}{5} \\ = 0.2 + \frac{3}{5} \\ = \frac{2}{10} + \frac{3}{5} = \frac{1}{5} + \frac{3}{5} = \frac{4}{5} \end{array}$$

$$18. \quad \begin{array}{r} 10 - 2x \geq -4 \\ -10 \quad \quad -10 \\ \hline -2x \geq -14 \\ \frac{-2x}{-2} \geq \frac{-14}{-2} \\ \boxed{4} \quad \boxed{7} \quad x \leq 7 \end{array}$$

$$19. \quad \begin{array}{l} \sqrt{17} \Rightarrow \text{Point 2} \\ \sqrt{23} \Rightarrow \text{Point 4} \\ \sqrt{27} \Rightarrow \text{Point 5} \end{array}$$

$$20. \quad \begin{array}{r} 3x - 4 \leq 2x - 5 \\ -2x \quad \quad -2x \\ \hline x - 4 \leq -5 \\ +4 \quad +4 \\ \hline x \leq -1 \end{array}$$

Points A, B, C \Rightarrow 3 POINTS.