

Name: _____ Teacher: _____ Date: _____ Score: _____

1 $-5 + (-3)$	2 $-10 \cdot -10$	3 $\frac{1}{2} + \left(-\frac{1}{2}\right)$	4 $\frac{1}{8} - \left(-\frac{8}{7}\right)$
5 $-\frac{7}{6} \cdot \frac{5}{3}$	6 $-0.4 - (-1.8)$	7 $7543 \div 100$	8 $6 - 1 - 2 \cdot -5$
9 $4 + (-3)$	10 $6 \cdot -7$	11 $-\frac{9}{7} - \frac{10}{7}$	12 $-\frac{5}{3} + \frac{1}{4}$
13 $\frac{9}{10} \div -2$	14 $7.6 - (-2.13)$	15 $0.4 \cdot 1000$	16 $-4 \cdot 3 - 6 - 5$
17 $-4 + 5$	18 $-18 \div 2$	19 $-\frac{11}{6} + \left(-\frac{1}{6}\right)$	20 $-2 + \frac{7}{5}$

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21 $-\frac{6}{5} \cdot -\frac{9}{7}$	22 $5.8 - 7.5$	23 $62.124 \div 100$	24 $5 - 2 - 6 \cdot 6$
25 $5 - 7$	26 $-5 \cdot 10$	27 $\frac{5}{4} + \frac{3}{4}$	28 $-7 - \frac{4}{3}$
29 $-\frac{2}{3} \div \frac{8}{7}$	30 $-0.1 - 7.5$	31 $23.476 \cdot 10$	32 $12 \div 2 \cdot -8 \div -2$
33 $-3 - (-3)$	34 $48 \div 6$	35 $-\frac{1}{2} + \left(-\frac{3}{2}\right)$	36 $\frac{1}{2} + \left(-\frac{2}{7}\right)$
37 $-\frac{5}{3} \cdot \frac{10}{7}$	38 $8 - (-7.8)$	39 $521.261 \cdot 100$	40 $3 \div (2 + 1) - 3$

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1	$2 + (-5)$	2	$72 \div -8$	3	$-\frac{1}{8} + \left(-\frac{15}{8}\right)$	4	$\frac{1}{4} - \left(-\frac{5}{3}\right)$
5	$-\frac{6}{5} \cdot \frac{5}{6}$	6	$-5 + (-1.7)$	7	$76.21 \div 10$	8	$1 - 4 + 2 + (-3)$
9	$-8 - (-8)$	10	$-4 \cdot -10$	11	$\frac{2}{7} - \frac{8}{7}$	12	$1 - \left(-\frac{1}{4}\right)$
13	$-\frac{5}{3} \div \frac{1}{9}$	14	$-0.4 + 1.4$	15	$2013 \div 10000$	16	$5 \cdot 2 \cdot 5 + 5$
17	$-5 + 4$	18	$24 \div 4$	19	$-\frac{4}{5} + \frac{6}{5}$	20	$\frac{7}{4} - \left(-\frac{7}{6}\right)$

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21 $-\frac{7}{5} \cdot -\frac{11}{10}$	22 $-2.4 + (-1.4)$	23 $1.005 \cdot 10000$	24 $(15 \div 5 + 5) \cdot 4$
25 $-3 - (-2)$	26 $9 \cdot -4$	27 $-\frac{7}{8} - \frac{3}{8}$	28 $2 - \frac{7}{6}$
29 $-2 \div -\frac{3}{7}$	30 $8.2 - (-2.9)$	31 $810 \div 100$	32 $8 \div ((3 - 1) \cdot 2)$
33 $-6 - (-8)$	34 $-8 \cdot 9$	35 $\frac{5}{4} + \left(-\frac{1}{4}\right)$	36 $\frac{3}{2} - \frac{5}{8}$
37 $-\frac{3}{4} \div -\frac{3}{4}$	38 $-3.5 + 2.6$	39 $456.38 \cdot 1000$	40 $-7 + (12 \div 4) - 1$

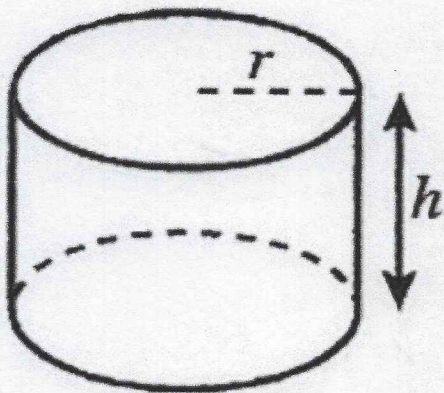
Surface Area – The total area of the combined surfaces of a three dimensional object

- How much paint would you need to cover the entire object?

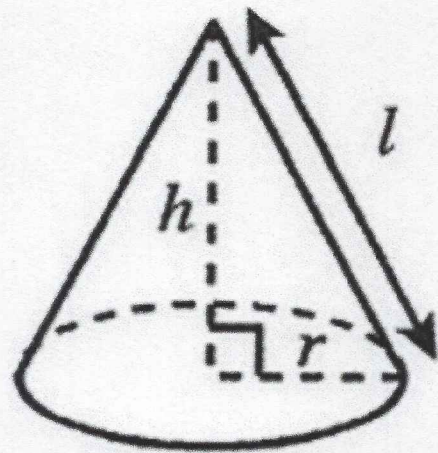
Volume – The amount of three dimensional space enclosed by an object

- How much water can the object hold?

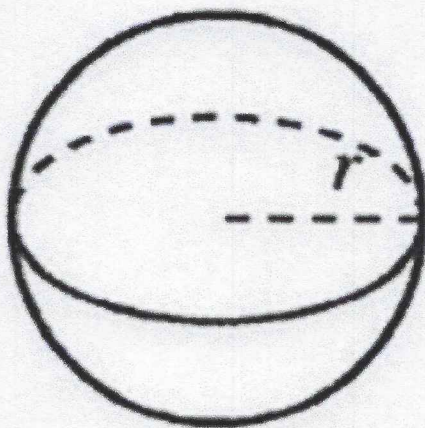
Formulas



$$\text{SURFACE AREA} = 2\pi r^2 + 2\pi rh$$
$$\text{VOLUME} = \pi r^2 h$$



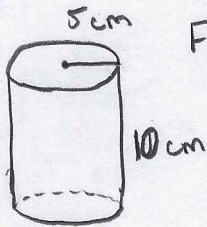
$$\text{SURFACE AREA} = \pi r^2 + \pi rl$$
$$\text{VOLUME} = \frac{1}{3} \pi r^2 h$$



$$\text{SURFACE AREA} = 4\pi r^2$$
$$\text{VOLUME} = \frac{4}{3} \pi r^3$$

VOLUME AND SURFACE AREA

ex/



FIND VOLUME AND SURFACE AREA

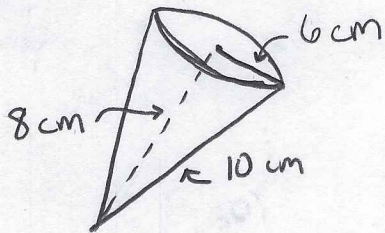
$$\begin{aligned} S.A. &= 2\pi r^2 + 2\pi rh \\ &= 2\pi(5)^2 + 2\pi(5)(10) \\ &= 2\pi(25) + 2\pi(50) \\ &= 50\pi + 100\pi \end{aligned}$$

$$SA = 150\pi \text{ cm}^2$$

$$\begin{aligned} V &= \pi r^2 h \\ &= \pi(5)^2(10) \\ &= \pi(25)(10) \end{aligned}$$

$$V = 250\pi \text{ cm}^3$$

ex/



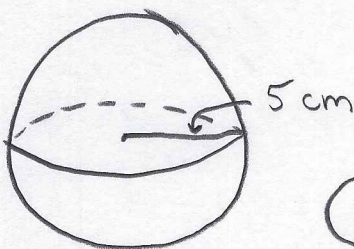
$$\begin{aligned} S.A. &= \pi r^2 + \pi r l \\ &= \pi(6)^2 + \pi(6)(10) \\ &= 36\pi + 60\pi \end{aligned}$$

$$SA = 96\pi \text{ cm}^2$$

$$\begin{aligned} V &= \frac{1}{3}\pi r^2 h \\ &= \frac{1}{3}\pi(6)^2(8) \\ &= \frac{1}{3}\pi(36)(8) \\ &= (12 \times 8)\pi \end{aligned}$$

$$V = 96\pi \text{ cm}^3$$

ex/



$$\begin{aligned} S.A. &= 4\pi r^2 \\ &= 4\pi(5)^2 \\ &= 4\pi(25) \end{aligned}$$

$$SA = 100\pi \text{ cm}^2$$

$$\begin{aligned} V &= \frac{4}{3}\pi r^3 \\ &= \frac{4}{3}\pi(5)^3 \\ &= \frac{4}{3}\pi(125) \end{aligned}$$

$$\begin{aligned} V &= \frac{500}{3}\pi \text{ cm}^3 \\ &\text{OR} \\ &166.7\pi \text{ cm}^3 \end{aligned}$$

FIND THE VOLUME AND SURFACE AREA

