8.4 Foundations of Math 11

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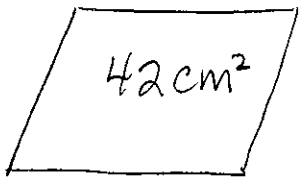
3.



$k = 5$
$k^2 = 25$

$42 \cdot 25 =$
$1050 cm^2$

4. $k = 2$
$k^2 = 4$

a) area = 11
$11 \cdot 4 = 44 un^2$

b) area = 13
$13 \cdot 4 = 52 un^2$

c) area = 12
$12 \cdot 4 = 48 un^2$

5. $k = \frac{1}{3}$
$k^2 = \frac{1}{9}$

a) $22.5 \left(\frac{1}{9}\right) =$
$2.5 un^2$

b) area circle $= \pi(1.5)^2 = 7.069$
area triangle $= \frac{bh}{2} = \frac{3 \cdot 3}{2} = 4.5$
total area $= 7.069 + 4.5 = 11.569$
$11.569 \left(\frac{1}{9}\right) = 1.3 un^2$

6. a) 4in x 6in
$4(150\%) = 4(1.5) = 6$
$6(150\%) = 6(1.5) = 9$
frame is 6in x 9in

b) $150\% = 1.5$
$k = 1.5$
$k^2 = 2.25$
$2.25 = 225\%$

7. quadruple the area is 4 times the area
4 times the area means each direction was multiplied by $\sqrt{4} = 2$
the stop needs to be multiplied by a scale factor of 2

8. a) $AB + DE = 35$
$14 + DE = 35$
$DE = 21$

scale factor $= \frac{14}{21} = \frac{2}{3}$

b) $k = \frac{2}{3}$
$k^2 = \frac{4}{9}$

ΔDEF area $= 144$
ΔABC area $= 144 \cdot \frac{4}{9} = 64 cm^2$

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9. Scale ratio 1:500

$K = 500$

$K^2 = 250000$

office $= 4\,(250000)$

$= 1000000\ cm^2$

$\frac{1000000}{10000} = 100\ m^2$

$1\ m^2 = 10000\ cm^2$

garage $= 24\,(250000)$

$= 6000000\ cm^2$

$\frac{6000000}{10000} = 600\ m^2$