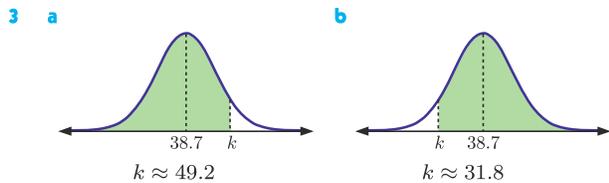
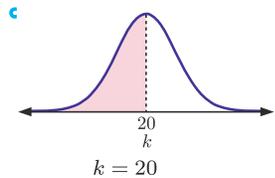
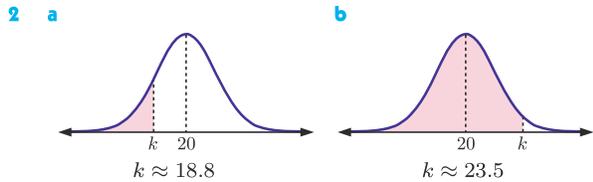
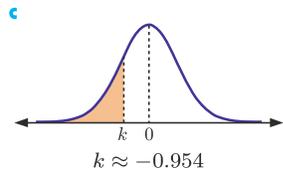
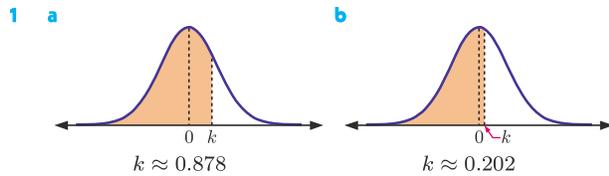


6 a i $z_1 \approx -0.859, z_2 \approx 1.18$ ii 0.687

EXERCISE 24D.1



4 a $a \approx 21.4$ b $a \approx 21.8$ c $a \approx 2.82$
 5 82.9 6 24.7 cm 7 75.2 mm 8 65.6%
 9 between 502 mL and 504 mL

EXERCISE 24D.2

1 112.4 2 0.193 m 3 \$96.50 4 4:01:24 pm
 5 a $\mu \approx 52.4, \sigma \approx 21.6$ b $\mu \approx 52.4, \sigma \approx 21.6, 54.4\%$
 6 a $\mu \approx 4.00$ cm, $\sigma \approx 0.00353$ cm b 0.604
 7 a $\mu = 2.00$ cm, $\sigma = 0.0305$ cm b 0.736

REVIEW SET 24A

1 a 2.28% b 95.4% c 68.3%
 2 a i 2.28% ii 84% b 0.341
 3 a $a = 6.3$ grams b $b \approx 32.3$ grams
 4 a Harri's score is 2 standard deviations below the mean.
 b 97.7% c 17
 5 $k \approx 2$ 6 29.5 m 7 a 0.136 b 0.341
 8 a 2.28% b 84.1% c 81.9%

REVIEW SET 24B

1 a 68.3% b 95.4% c 81.9% d 13.6%
 2 a i 81.9% ii 84.1% b 0.477 c $x \approx 61.9$
 3 $\mu \approx 31.2$ mm
 4 a $\mu = 29.0, \sigma \approx 10.7$ b i 0.713 ii 0.250
 5 a 6.68% b 0.854
 6 a 1438 candidates b 71.1 marks
 7 a 0.260 b 29.3 weeks
 8 a $\mu = 61.2, \sigma \approx 22.6$ b ≈ 0.244
 9 a The relative difficulty of each test is not known.
 b z-score for English = 1, z-score for Chemistry = 1
 \therefore Kerry's performance relative to the rest of the class is the same in both tests.

REVIEW SET 24C

1 a mean is 18.8, standard deviation is 2.6 b 13.6 to 24.0
 2 a 0.364 b 0.356 c $k \approx 18.2$
 3 0.207 4 $\mu \approx 80.0$ cm 5 0.0708
 6 a 68.3% b 0.0884 7 $\sigma \approx 0.501$ mL 8 0.403

EXERCISE 25A

1 a $r = 3$ b 2×3^{19} 2 Hint: $u_1 = \ln 2 = d$
 3 a b^2x b $2 \ln b + x$ c $x = \frac{2 \ln b}{b^2 - 1}$
 4 a $(b, 2)$ b y-intercept is $2 - 2b^2$, x-intercepts are $b \pm 1$
 c i $b = -2$ ii $b < -2$ iii $b = \frac{1 \pm \sqrt{17}}{4}$
 5 a $x^3 - 6x^2 + 12x - 8$ b 29
 6 a 1 b 3 c $\{x \mid x \leq \frac{1}{2}, x \in \mathbb{R}\}$
 d $\{y \mid y \geq 0, y \in \mathbb{R}\}$
 7 a a b $-b$ c a d $\frac{a}{\sqrt{1-a^2}}$
 8 a $x = 0, \pi, 2\pi$ b $x = \frac{\pi}{3}, \frac{5\pi}{3}$

Constant	a	b	c	d	e	h
Sign	> 0	< 0	> 0	< 0	> 0	= 0

Constant	Δ of $f(x)$	Δ of $g(x)$
Sign	< 0	> 0

10 a $\frac{\pi}{3}$ b 6 cm
 11 a no
 b 3 is not in the range of f . In fact, the range is $\{y \mid y \geq 6\}$.
 12 a $p = 1$ b $\sqrt{6p^2 + 60}$
 13 a $\vec{BA} = \begin{pmatrix} 3 \\ 1 \\ 1 \end{pmatrix}, \vec{BC} = \begin{pmatrix} 1 \\ 1 \\ -3 \end{pmatrix}$ b both are $\sqrt{11}$ units
 c a rhombus d i $\frac{1}{11}$ ii $\frac{\sqrt{120}}{11}$ iii $2\sqrt{30}$ units²